

# A Meta-Analysis on Gender Differences in Negotiation Outcomes and Their Moderators

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This meta-analysis investigates gender differences in economic negotiation outcomes. As suggested by role congruity theory, we assume that the behaviors that increase economic negotiation outcomes are more congruent with the male as compared with the female gender role, thereby presenting challenges for women's negotiation performance and reducing their outcomes. Importantly, this main effect is predicted to be moderated by person-based, situation-based, and task-based influences that make effective negotiation behavior more congruent with the female gender role, which should in turn reduce or even reverse gender differences in negotiation outcomes. Using a multilevel modeling approach, this meta-analysis includes 123 effect sizes (overall  $N = 10,888$ , including undergraduate and graduate students as well as businesspeople). Studies were included when they enabled the calculation of an effect size reflecting gender differences in achieved economic negotiation outcomes. As predicted, men achieved better economic outcomes than women on average, but gender differences strongly depended on the context: Moderator analysis revealed that gender differences favoring men were reduced when negotiators had negotiation experience, when they received information about the bargaining range, and when they negotiated on behalf of another individual. Moreover, gender differences were reversed under conditions of the lowest predicted role incongruity for women. In conclusion, gender differences in negotiations are contextually bound and can be subject to change. Future research is needed that investigates the underlying mechanisms of new moderators revealed in the current research (e.g., experience). Implications for theoretical explanations of gender differences in negotiation outcomes, for gender inequalities in the workplace, and for future research are discussed.

*Keywords:* gender, sex, negotiation, economic outcomes, meta-analysis

Negotiation is a consequential social endeavor, affecting people's salaries, career advancements, and relationships (Thompson, 2009). But does everyone have equal outcomes in negotiations? Tangible negotiation outcomes indicate that women may be placed at a systematic disadvantage vis-à-vis men in negotiation, which may contribute to persistent outcome differences such as the gender pay gap where men's salaries typically surpass those received by women (Institute for Women's Policy Research, 2012; Kulik & Olekalns, 2012). In this

meta-analysis, we explore whether there are systematic gender differences in negotiation outcomes and how these differences can be explained. Of importance, we focus on the role of context in this meta-analysis and analyze various conditions that might attenuate or reverse gender differences in negotiation outcomes, thereby illuminating what influences gender differences.

Gender differences are among the most enduring issues in negotiation research (Kray & Thompson, 2005; Walters, Stuhl-

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acher, & Meyer, 1998). Nonetheless, research has often yielded mixed evidence on the relative effectiveness of men and women in negotiations (see Kray & Thompson, 2005; Rubin & Brown, 1975, for overviews). Moreover, theoretical frameworks (e.g., Deaux & LaFrance, 1998; Kray & Thompson, 2005; Stuhlmacher & Linnabery, 2013) and recent primary studies suggest that gender differences favoring men can be eliminated or reversed under certain conditions (Bowles, Babcock, & McGinn, 2005; Kray, Thompson, & Galinsky, 2001).

The main objective of this research is to provide a comprehensive overview on gender differences in economic negotiation outcomes based on the extant empirical studies. We present a meta-analysis on gender differences in economic negotiation outcomes that builds on and extends a previous meta-analysis of Stuhlmacher and Walters (1999) by integrating a larger sample of studies (123 as compared with 53 effect sizes) with three times as many participants (i.e., 10,888). Beyond studying a potential gender main effect, we contribute to the existing knowledge by emphasizing moderating conditions in this meta-analysis. Although the meta-analysis by Stuhlmacher and Walters (1999) tested a number of moderators, none significantly affected the overall finding. However, the authors noted that the relatively small number of effect sizes (at that time) may have precluded the detection of theoretically meaningful moderators. In the current meta-analysis, we examine moderators that either originate from the negotiating person (i.e., experience and self-initiation), the negotiation situation (i.e., advocacy and structural ambiguity), or the negotiation task itself (i.e., integrative potential). While the situation- and task-related moderators are derived from existing research (Bowles et al., 2005; Kray & Thompson, 2005; Stuhlmacher & Linnabery, 2013), the person-related moderators have not been previously considered. Together, this work integrates and extends previous theory and research to better understand when gender influences negotiation performance.

### Gender Roles and Economic Negotiation Outcomes

Negotiation can be defined as communication between at least two parties aimed at reaching agreements on their (perceived) divergent interests (Pruitt, 1998). With regard to gender differences<sup>1</sup> in negotiation, previous research suggests that women as compared with men display a lower propensity to initiate negotiations (Bowles, Babcock, & Lai, 2007; Small, Gelfand, Babcock, & Gettman, 2007) and negotiate less competitively (Walters et al., 1998). According to the meta-analysis by Stuhlmacher and Walters (1999), women also tend to achieve worse economic outcomes ( $d = 0.09$ ; a very small-sized effect according to the guidelines proposed by Cohen, 1988).

Over the past decades, numerous underlying mechanisms for these gender differences have been proposed (cf. Kray & Thompson, 2005; Stuhlmacher & Walters, 1999). Importantly, social role theories have been discussed as offering a unifying framework that accounts for many of the gender and negotiation findings (see Stuhlmacher & Linnabery, 2013, for an overview). Social role theories such as role congruity theory (Eagly & Karau, 2002) suggest that gender differences in negotiation behavior and outcomes—at least in Western cultures—can be explained by the fact that the agentic behaviors usually considered essential for negotiating economic outcomes are not congruent with the female gender

role (Amanatullah & Tinsley, 2013b; Stuhlmacher & Linnabery, 2013). This incongruity may lead women to display less negotiation behaviors that increase economic outcomes (Amanatullah & Morris, 2010; Stuhlmacher & Linnabery, 2013) and their negotiating counterparts to regard these negotiation behaviors as less appropriate. If this reasoning is correct, situations that make negotiating and the female gender role more congruent should reduce or even reverse gender differences in negotiation.

Indeed, gender roles can exert a strong influence on people's behaviors. According to social role theory (Eagly, 1987), gender roles are composed of consensual beliefs about behavioral expectations related to men's and women's roles (Eagly & Wood, 2012). The female gender role has communal characteristics such as being accommodating, concerned with the welfare of others, or relationship-oriented (Bakan, 1966; Eagly & Wood, 2012). In contrast, the male gender role has agentic characteristics such as behaving in competitive, assertive, or profit-oriented ways. Gender roles are not only descriptive but also injunctive, and, hence, include expectations about how women and men ought to be and behave (Eagly & Karau, 2002; Wood & Eagly, 2010). Gender roles are thus "(...) normative in the sense that they describe qualities or behavioral tendencies believed to be desirable for each sex" (Eagly, 1987, p. 13).

Because gender roles are injunctive, women who deviate from the female role—for instance by acting assertively—risk incurring *social backlash* (Rudman & Phelan, 2008; Stuhlmacher & Linnabery, 2013). As an example, women violating gender injunctions, such as negotiating assertively, are evaluated more negatively (e.g., less likeable) than men displaying similar behavior (Bowles et al., 2007; Tinsley, Cheldelin, Schneider, & Amanatullah, 2009). Research also shows that women tend to be concerned about incurring backlash and tend to adjust their behavior accordingly (Amanatullah & Morris, 2010; Bowles et al., 2007). In short, women in negotiations might feel social pressure to adhere to the female role and display gender-consistent behavior such as accommodation or cooperation (Miles & LaSalle, 2008; Walters et al., 1998), and their negotiating counterparts may evaluate role deviations negatively (Amanatullah & Tinsley, 2013b).

Importantly, however, negotiating effectively for economic outcomes usually requires agentic qualities such as behaving assertively or competitively, and is thus more congruent with the male gender role. In contrast, ineffective negotiating with respect to economic outcomes is linked to stereotypic female qualities such as behaving submissively or accommodatingly (Kray & Thompson, 2005; Kulik & Olekalns, 2012). As an example, starting a negotiation with an aggressive first offer (congruent with the male gender role) has been shown to be a negotiation behavior that increases negotiation outcomes (Galinsky & Mussweiler, 2001; Miles, 2010). Conversely, premature concession-making is more congruent with the female gender role and has been shown to be a rather ineffective negotiation behavior—in both distributive and integrative negotiations (Curhan, Neale, Ross, & Rosencranz-

<sup>1</sup> To denote differences between men and women in the current research, the term "gender differences" is used (cf. Bowles & McGinn, 2008; Stuhlmacher & Walters, 1999). We use the term "gender" as it is often associated with social factors influencing men and women which we investigate in the current research (as compared with the term "sex" which is often associated with biological factors; Bowles & McGinn, 2008).

Engelmann, 2008; Hüffmeier, Freund, Zerres, Backhaus, & Hertel, 2014). Together, women as compared with men face an incongruity between their gender role and the agentic behaviors usually required in negotiations. This, in turn, can reduce expectations of personal effectiveness as well as actual applications of the agentic behaviors needed to achieve high economic outcomes, and might also lead negotiating counterparts to react with backlash. Thus, for women, behaving in accordance with the female role and avoiding potential backlash should lead to less negotiation behaviors that increase economic outcomes. As a result, men as compared with women should achieve better economic outcomes.

*Hypothesis 1:* Men achieve better economic negotiation outcomes than women.

### **Moderation of Gender Differences in Economic Outcomes**

Research on gender differences in negotiation has a long history of inconsistent results (cf. Rubin & Brown, 1975; Walters et al., 1998). Negotiation scholars thus converge on the assumption that gender differences in negotiation are moderated by the negotiation context (Bowles et al., 2005; Walters et al., 1998). We consider the relative congruity between a negotiation and the female gender role as a general moderating principle because negotiations can be influenced by gender roles and stereotypes (Amanatullah & Morris, 2010; Bowles & McGinn, 2008; Stuhlmacher & Linnabery, 2013). In this respect, the characteristics of the broader negotiation situation, the negotiators themselves, and the negotiation task might affect role congruity for women in negotiation. We hence commonly investigate situation-based (i.e., advocacy and structural ambiguity), person-based (i.e., experience and self-initiated negotiation), and task-based (i.e., integrative potential) moderators in a conditional model of gender differences in negotiation outcomes.

The first situation-based moderator—advocacy—concerns whether negotiators are negotiating for themselves or on behalf of others. Negotiators often advocate for themselves at the bargaining table—for example when negotiating their own salary. In other situations, people negotiate on behalf of other individuals—for instance when they represent a client, friend, or family member. Self-advocating women who negotiate assertively risk incurring backlash because assertiveness might be perceived as incongruent with the female gender role (Eagly & Karau, 2002; Stuhlmacher & Linnabery, 2013; Wade, 2001). When women negotiate on behalf of others, however, the same assertive behavior can be interpreted as being concerned with the welfare of others, and, thus, as congruent with women's communal gender role (Amanatullah & Tinsley, 2013b; Stuhlmacher & Linnabery, 2013). Research has shown that women advocating for another individual anticipate less backlash, and, therefore, negotiate more assertively as compared to self-advocating women (Amanatullah & Morris, 2010). Because successful negotiating often requires assertiveness, women should achieve better economic outcomes when negotiating on behalf of another individual (Bowles et al., 2005). In summary, when negotiators recognize that women are negotiating on behalf of, and clearly for, the benefit of another person, negotiating assertively should be perceived to be more congruent with the female role of being relationship-oriented and caring for others (Stuhlmacher & Linnabery, 2013).

Notably, these effects might not emerge when it is ambiguous whom women are essentially representing—as compared with advocating for a single, clearly identifiable person whose personal benefit is known. If negotiators do not clearly perceive a relationship between female negotiators and their constituency, assertiveness among women may not be readily interpreted as relationship-oriented behavior. Such a situation might occur, for instance, when women negotiate on behalf of a larger entity such as an organization. When negotiators act as business representatives, it can be ambiguous for whom they are essentially negotiating. Because negotiated profits often have implications for negotiators' personal outcomes (e.g., own salary or career), it might appear that they in fact are negotiating their own interests. Consequently, a woman's assertiveness might be perceived as misaligned with the female gender role in these situations. This, in turn, should increase women's risk of incurring backlash for negotiating assertively so that women might be reluctant to deviate from the female role. By contrast, when women advocate for a single individual (e.g., when negotiating a friend's salary), their assertiveness can be more clearly interpreted as benefitting another person. As a result, the gender difference in negotiation outcomes is expected to be moderated by the focus of advocacy such that the gender difference favoring men is reduced when persons are negotiating on behalf of another individual rather than for themselves or on behalf of a larger entity.

The second situation-based moderator considered is the structural ambiguity of negotiations. Recent research has drawn on Mischel's (1977) notion of ambiguous (or weak) and unambiguous (or strong) situations (Bowles et al., 2005; Miles & LaSalle, 2008). Ambiguous situations do not provide people with a clear protocol or script of appropriate behavior. In these situations, people rely on more general behavioral schemata and social norms available, such as preconceived gender roles and stereotypes (Bowles & McGinn, 2008; Wood & Eagly, 2010). Conversely, in unambiguous situations people have the same understanding of appropriate behavior and construe the situation similarly (Mischel, 1977). In these situations, the influence of more general social norms such as gender roles and stereotypes is reduced (Bowles et al., 2005; Miles & LaSalle, 2008).

An important determinant of situational ambiguity in negotiations is the negotiators' knowledge about the economic structure of a negotiation (i.e., the bargaining range; Bowles et al., 2005; Bowles & McGinn, 2008). Providing negotiators with information about the bargaining range—for instance, with standards for agreement or prescribed values of outcomes provided in pay-off tables—is presumed to reduce structural ambiguity (Bowles & McGinn, 2008; Miles & LaSalle, 2008). In negotiation laboratory experiments, participants often receive tables that list the possible values and options for agreement (and therefore the bargaining range) for each negotiation issue. Providing concrete information about the range of issues should thus clarify appropriate negotiation behavior, which should in turn reduce the reliance on gender roles in such negotiations (Stuhlmacher & Linnabery, 2013). Therefore, we expect that gender differences in economic outcomes favoring men are reduced when negotiators are provided with information about the bargaining range as compared to when they are not provided with that information.

Importantly, the ambiguity in negotiations might also be reduced when people gain negotiation experience—a first person-

based moderator included in our conditional model. Inexperienced negotiators are likely to be uncertain, for instance, about appropriate and effective negotiation behavior. However, it has been found that a single negotiation experience is sufficient to increase negotiation performance (Thompson, 1990; Zerres, Hüffmeier, Freund, Backhaus, & Hertel, 2013). Gaining negotiation experience should enable people to develop a protocol or script of appropriate and conducive behavior, thereby reducing the ambiguity in negotiations. Skills and abilities increase when individuals gain experience in a specific task (Eagly & Wood, 1999). Thus, it seems likely that negotiation experience enhances the understanding of the tasks of a negotiator. As a result, gaining negotiation experience might minimize women's reliance on the female gender role. Gender differences in economic negotiation outcomes favoring men are thus predicted to be attenuated when negotiators have negotiation experience.

A second person-based moderator—self-initiated negotiation—concerns individuals' motivation to participate in a negotiation. Negotiating is often self-initiated, for instance, when individuals start negotiating personal issues (e.g., their salary) with another party in their everyday life. As another example of self-initiated negotiations, students might decide to participate in negotiation exercises (or studies) by responding to invitations or by electing a specific course on negotiation (cf. Thompson & Leonardelli, 2004). However, negotiating might not solely be self-initiated when participation is part of a compulsory university course (e.g., on organizational behavior) and individuals participate in negotiations as partial fulfillment of course requirements.

Women are often reluctant to negotiate because initiating negotiations is perceived as stereotypically male behavior (Bowles et al., 2007; Small et al., 2007). Thus, women behaving consistent with their gender role might not actively seek opportunities to negotiate (e.g., do not elect optional negotiation courses) and only respond to negotiation challenges when necessary, for example, when participation in a negotiation exercise is part of a course requirement. However, if the gender role pressure is not as salient (e.g., when people do not endorse traditional gender roles or when it is normative to behave assertively) women may self-initiate negotiations. In these cases, women might display more effective negotiation behavior during negotiations than women who may be more influenced by the female gender role. The gender difference in economic outcomes favoring men should thus be reduced when participation in a negotiation is self-initiated rather than compulsory.

Furthermore, we include an important task-based moderator in our conditional model: the integrative potential of negotiations. In negotiation research, two types of negotiation tasks are generally distinguished: distributive and integrative negotiations. Interestingly, previous research offers different suggestions concerning a potential moderation of gender differences by the integrative potential of the negotiations. Although it has been speculated that gender differences may be more pronounced in distributive as compared with integrative negotiations (Miles, 2010), other research suggests that men achieve better outcomes in both integrative and distributive negotiations (Calhoun & Smith, 1999; Miles & LaSalle, 2009), potentially due to similar underlying mechanisms in both types of negotiation tasks.

In distributive negotiations, usually one single issue is negotiated, and, therefore, an increase in profit for one party corresponds

to an equivalent decrease of the counterpart's profit. In these settings, behaviors such as making aggressive first offers or refusing to yield are conducive to maximizing economic outcomes (Galinsky & Mussweiler, 2001; Hüffmeier et al., 2014). These behaviors are often regarded as highly assertive (i.e., masculine) behaviors (Kray & Thompson, 2005). Women may thus perceive a pronounced incongruity between negotiation behaviors that increase economic outcomes and gender role behaviors, and, therefore, might be especially disadvantaged (e.g., Miles, 2010).

Integrative negotiations provide opportunities for joint gains because several issues are negotiated that are valued differently by the involved parties. Maximizing economic outcomes in integrative negotiations requires behaviors such as asking questions about the interests or priorities of the counterpart (De Dreu, Beersma, Stroebe, & Euwema, 2006; Thompson, 1991). These behaviors can be interpreted as indicating cooperation and concern for the other party, which might appear to be more congruent with the female gender role (Miles, 2010; Stuhlmacher & Walters, 1999). On the one hand, women may thus be less disadvantaged by role incongruity in integrative negotiations so that the gender difference favoring men might be reduced in integrative as compared to distributive negotiations.

On the other hand, dual concern theory (Pruitt & Rubin, 1986) suggests that achieving highly integrative outcomes requires both a high concern for the counterpart as well as for oneself. A high concern for oneself is incongruent with communal aspects of the female role, and when combined with low resistance to yielding, negotiators engage in premature concession making, which limits the discovery of integrative solutions (Calhoun & Smith, 1999; De Dreu et al., 2006; De Dreu, Weingart, & Kwon, 2000). Given the influence of gender roles and stereotypes, however, women may tend to accommodate rather than to resist yielding (e.g., Miles & LaSalle, 2009). Consistent with increased yielding by women, research has hypothesized and found that women obtain worse outcomes in integrative negotiations than men (Calhoun & Smith, 1999; Curhan et al., 2008; Miles & LaSalle, 2009). The cooperative behaviors of women (i.e., concessions) hence can result in low economic outcomes in both distributive and integrative negotiations: Every concession decreases one's individual outcome in distributive negotiations, and premature concession making additionally precludes the detection of integrative potential, thereby reducing joint profits in integrative negotiations (De Dreu et al., 2006). According to this perspective, gender differences should not be moderated by the integrative potential of negotiations. Given these different suggestions, it remains an open research question whether the gender difference is moderated by a negotiation's integrative potential—one that we would also like to address in this meta-analysis.

In summary, multiple influences may affect role congruity for women in negotiation so that gender differences in economic outcomes should depend on the specific context. In this research, we thus commonly consider five moderators—situation-based (advocacy and structural ambiguity), person-based (experience and self-initiated negotiation), and task-based (integrative potential)—in a conditional model and test their influence on gender differences in economic outcomes.

## Method

### Literature Search

Multiple search strategies were employed until August, 2012 to identify research on gender differences in economic negotiation outcomes. First, we reviewed studies meta-analyzed by Stuhlmacher and Walters (1999). Second, we conducted electronic literature searches in the following databases: PsycINFO (via EBSCO), Educational Resources Information Center (ERIC), Dissertation Abstracts International, Sociological Abstracts, Business Source Premier, Academic Search Premier, PsycARTICLES, PsycCritiques, PSYINDEX, and Google Scholar. In these searches, the following keywords and their combinations were used: *gender* or *sex* and *negotiat\**, *bargain\**, or *conflict* (cf. Stuhlmacher & Walters, 1999; Walters et al., 1998), but not *HIV*, *AIDS*, *homosex\**, *gay*, *condom*, *lesbian\**, *parental*, *motherhood*, *couple*, *marri\**. Third, we searched the reference lists of retrieved studies for relevant research. Fourth, we conducted a “forward search” via Web of Science with three previous meta-analyses on gender differences in negotiation (viz., Stuhlmacher, Citera, & Willis, 2007; Stuhlmacher & Walters, 1999; Walters et al., 1998) as well as all studies included in the current meta-analysis. Fifth, we hand-searched articles published in the following journals since January 1999 (the year of publication of the meta-analysis by Stuhlmacher & Walters, 1999): *Academy of Management Journal*, *European Journal of Social Psychology*, *Group and Organization Management*, *International Journal of Conflict Management*, *Journal of Applied Psychology*, *Journal of Experimental Social Psychology*, *Journal of Personality and Social Psychology*, *Negotiation and Conflict Management Research*, *Organizational Behavior and Human Decision Processes*, and *Personality and Social Psychology Bulletin*. Finally, we sent requests via newsgroups and mailing lists to find unpublished studies (i.e., the CMDNET [newsgroup of the Conflict Management Division of the Academy of Management], the mailing list of the International Association for Conflict Management, the European Association of Social Psychology, and the social psychology section of the German Psychological Society). Authors who provided unpublished data were contacted if details were unclear. These combined efforts yielded 433 potential studies, which were checked by three of the authors in different constellations for study eligibility.

### Criteria for Inclusion and Exclusion

In this research, we investigate whether gender (as the independent variable) is related to economic outcomes (as the dependent variable) in negotiations. To be included in the meta-analysis, a study had to compare and report final economic negotiation outcomes achieved by women and men in an actual negotiation task. In this respect, participants had to engage in a task in which economic outcomes could be achieved—such as a salary negotiation (e.g., Bowles et al., 2005). By contrast, studies in which participants’ task was to indicate their willingness to negotiate (e.g., Bowles et al., 2007) or studies reporting, for instance, men’s and women’s behaviors but not their achieved economic outcomes (e.g., Nauta, De Dreu, & van der Vaart, 2002) were not included. Importantly, a study had to provide results enabling the calculation

of an effect size as well as specifying the direction of the gender difference. Only study designs that allowed the calculation of an effect size reflecting gender differences in achieved economic outcomes were included in this meta-analysis. Furthermore, a study had to compare outcomes based on gender and not on classifications of individuals as masculine or feminine based on sex role inventories (cf. Stuhlmacher & Walters, 1999). Consistent with the meta-analysis by Stuhlmacher and Walters (1999), matrix games such as the Prisoner’s Dilemma Game were not investigated in the current meta-analysis. Furthermore, only two-party negotiations were included in this research. Finally, participants in studies that were included had to be at least 14 years old (cf. Stuhlmacher & Walters, 1999).

Of the 433 potential studies, a total of 51 studies met the criteria for inclusion in this meta-analysis. The remaining 382 studies were excluded for the following reasons: 124 studies were excluded because they investigated other dependent variables than economic outcomes such as negotiators’ propensity to initiate negotiations (e.g., Small et al., 2007). Twenty-seven studies were not on the topic of negotiations (e.g., Lauzen & Dozier, 2008), and 59 studies were conceptual or review articles (e.g., Kray & Thompson, 2005). Forty studies used other tasks, for example the Prisoner’s Dilemma Game (e.g., Insko, Kirchner, Pinter, Efaw, & Wildschut, 2005). Another 132 studies reported no, insufficient, or ambiguous data on gender differences in economic outcomes. As an example, we excluded six studies meta-analyzed by Stuhlmacher and Walters (1999), which only reported that gender differences were “not significant” but no statistics that allow the computation of an effect size to increase precision of effect size estimations (e.g., Kemp & Smith, 1994). For example, a potential study reporting gender differences was excluded because it appeared that the negotiation situation across male and female participants was not the same (cf. Dalton, Todor, & Owen, 1987). Many studies were excluded for more than one reason—review articles (e.g., Kray & Thompson, 2005), for instance, typically did not provide data on economic outcomes.

The final data set included 51 studies with a total of 123 effect sizes and 10,888 participants (4,656 women and 6,232 men, including undergraduate and graduate students as well as businesspeople). The average sample size per effect size was  $n = 88.52$ , the smallest sample size was  $n = 8$ , and the largest sample size was  $n = 1,554$ .<sup>2</sup> In 29 studies, a modeling research design (studies focusing on gender in a correlational approach; Cooper, 2009) was employed; in the remaining 22 studies, an experimental design with gender as quasi-experimental factor was employed. Many studies provided more than one effect size (on average 2.41 effect sizes per study) because the gender difference was reported, for instance, for different experimental conditions manipulating moderators (e.g., advocacy; Amanatullah, 2007) or for independent samples (e.g., Craver, 1990).

<sup>2</sup> There were two effect sizes with much larger sample sizes in the current database so that we conducted a sensitivity analysis to examine the robustness of our results. All effects (main and moderator effects) remained the same when excluding these two potentially influential effect sizes.

### Coding of Study Characteristics

All moderators were dummy-coded as 0 = undiminished gender difference predicted, and 1 = reduced gender difference predicted. The following five study characteristics were coded for each effect size. All effect sizes, variances of effect sizes, and coding decisions can be found in the Appendix.

**Advocacy.** Advocacy refers to the extent that one is negotiating on behalf of another person or not. As mentioned, when women advocate for another individual—for example when they negotiate a friend's salary—assertiveness can be interpreted as a relationship-oriented behavior. However, when they negotiate on behalf of a larger entity such as an organization, it can be ambiguous whose interests they are advocating. Hence, it can appear that they are essentially advocating for themselves (e.g., when achieved outcomes affect personal incentives). Consistent with published primary studies focusing on this moderator (Amanatullah, 2007; Amanatullah & Morris, 2010; Bowles et al., 2005), we therefore operationalized the other-advocating condition as negotiating on behalf of a single individual. Because a reduced gender difference may only be expected when women negotiate on behalf of a single individual, advocacy was coded as 0 if participants negotiated for themselves *or* on behalf of a larger entity such as a firm ( $k = 82$ ,  $n = 9,381$ ). Effect sizes with participants negotiating for themselves ( $k = 30$ ) were thus combined with effect sizes with participants negotiating on behalf of a larger entity ( $k = 52$ ) in the main moderator analysis. Conversely, advocacy was coded as 1 if participants negotiated on behalf of a single individual ( $k = 41$ ,  $n = 1,507$ ). Subgroup comparisons are reported in the results section to empirically test this theoretical rationale.

**Structural ambiguity.** Structural ambiguity refers to the information provided in the negotiation material regarding the specificity of possible solutions and issues. Structural ambiguity was coded as 0 if negotiators were not provided with information about the bargaining range ( $k = 53$ ,  $n = 3,538$ ), and as 1 if negotiators were provided with information about the bargaining range, which is primarily included in standards for agreement or negotiation tables ( $k = 70$ ,  $n = 7,350$ ). Negotiation tables, for example, typically detail point values for each alternative and negotiation issue (see Thompson & Hastie, 1990, p. 105, for an example). Given this information, negotiators are able to calculate the lowest and highest number of points achievable in a negotiation—therefore are provided with full information about the bargaining range.

**Negotiation experience.** Negotiation experience was expected to reduce the gender difference in negotiation outcomes. Previous research suggests that even a single negotiation experience can increase negotiation performance (e.g., Thompson, 1990). Accordingly, people were assumed to have a minimum of experience if they had at least formally negotiated once. Experience was coded as 0 if participants did not have prior negotiation experience ( $k = 41$ ,  $n = 2,006$ ). Conversely, experience was coded as 1 if participants had at least a minimum of negotiation experience ( $k = 82$ ,  $n = 8,882$ ), for instance because of prior rounds of negotiation ( $k = 42$ ), previous experiences in negotiation classes ( $k = 35$ ), negotiation training ( $k = 33$ ), or because participants reported that they had experience ( $k = 8$ ). Furthermore, students in master of business administration (MBA) programs or participants in executive training programs are often assumed to have more negotiation experience than undergraduate students (cf. Cohen,

2010; Herbst & Schwarz, 2011). Previous research substantiates this reasoning: In a recent study, 74.7% of MBA students indicated that they had salary negotiation experience (Porter, Conlon, & Barber, 2004). MBA and executive training program samples were thus coded as possessing a minimum of negotiation experience ( $k = 33$ ). Moreover, if data on more than one round with the same subjects were reported (e.g., Stevens, Bavetta, & Gist, 1993), the effect size from the second round of negotiating was calculated ( $k = 8$ ). In many effect sizes (41 of 82 effect sizes) participants had experience for more than one reason such as prior rounds of negotiation as well as training.

**Self-initiated negotiation.** Self-initiated negotiation reflects the extent to which individuals freely chose or were required to participate in the negotiation. Self-initiated negotiation was coded as 0 if participation in negotiations was compulsory ( $k = 27$ ,  $n = 3,937$ ). This included when participants were enrolled in a course (e.g., a compulsory course on organizational processes but not specifically on negotiations) where participation served as partial fulfillment of a course requirement (e.g., Curhan & Overbeck, 2008). In such situations, it is less of a personal choice to engage in a negotiation exercise. Self-initiated negotiation was also coded as 0 when individuals participated in a negotiation exercise during an MBA orientation at “the first day of formal activities” (Miles & LaSalle, 2009, p. 273), when it is supposedly normative to participate in the offered activities.

By contrast, self-initiated negotiation was coded as 1 if the study description suggests that participation in negotiations required a discrete decision to voluntarily participate in a negotiation ( $k = 96$ ,  $n = 6,951$ ). This included when individuals were described as volunteers (e.g., Barron, 2003), or when participation was part of a course on negotiation (e.g., Miles, 2010) because negotiation courses are typically elective, at least in American business schools (cf. Thompson & Leonardelli, 2004). In this respect, Cotter and Henley (2004) stated that “only students with a special interest in negotiation are likely to attempt to sign up for the course. The negotiation behavior of students with a special interest in negotiation may be different than negotiation behavior of the general public, who may wish to avoid it whenever possible” (p. 155). Further, self-initiated negotiation was coded as 1 when people participated in response to flyers or invitations (e.g., Carnevale & Lawler, 1986). This decision seemed justified because in 99% of the descriptions of included effect sizes, participants' task was described as “negotiation” and not, for example, “decision making”—increasing the likelihood that advertisements also described participants' task as negotiation.

**Integrative potential.** Integrative potential refers to the extent that the task allowed logrolling or tradeoffs between issues. Distributive negotiations—that is negotiations without integrative potential such as single issue negotiations (e.g., about price in buyer-seller negotiations)—were coded as 0 ( $k = 29$ ,  $n = 2,432$ ). Conversely, negotiations that contained integrative potential—i.e., negotiations with multiple issues that are valued differently by negotiating parties (e.g., signing bonus and number of vacation days in a recruitment negotiation)—were coded as 1 ( $k = 94$ ,  $n = 8,456$ ).

**Coding.** In a first round of coding, all included studies were coded independently by two of the authors. The resulting average interrater reliability was  $\kappa = .93$ . Afterward, the coding scheme was revised and all studies were coded a second time by

two of the authors (both experts in the field of negotiation). The final average interrater reliability was  $\kappa = .97$ . In detail, the interrater reliability was  $\kappa = .98$  for advocacy,  $\kappa = .97$  for structural ambiguity,  $\kappa = .96$  for negotiation experience,  $\kappa = 1.00$  for self-initiated negotiation, and  $\kappa = .94$  for integrative potential. The remaining discrepancies were resolved through discussions.

### Computation of Effect Sizes

If reported, the individual economic outcome for each gender was used as indicator of men's and women's performance (cf. Stuhlmacher & Walters, 1999). If individual outcomes were not reported, joint economic outcomes achieved by female–female as compared with male–male dyads were used to compute effect sizes. Joint outcomes for female–male dyads, however, could not be included as these joint outcomes do not include information about the relative profits of men and women (cf. Stuhlmacher & Walters, 1999).

For each effect size, we first computed the standardized mean difference (Cohen's  $d$ ) between negotiation outcomes achieved by men and women. We then converted the obtained standardized differences to Hedges'  $g$  to correct for bias in small samples (cf. Borenstein, 2009; Borenstein, Hedges, Higgins, & Rothstein, 2009). The variance of each effect size was computed according to the formulae given by Borenstein (2009). If means and standard deviations for each gender were not available, Hedges'  $g$  was computed from  $t$  statistics ( $k = 12$ ),  $F$  statistics ( $k = 8$ ), correlations ( $k = 10$ ), or  $p$  values ( $k = 14$ ) via the respective formulae given by Borenstein (2009). When standardized beta coefficients were reported ( $k = 3$ ), the recommended conversion formulae by Peterson and Brown (2005) were applied. Proportions ( $k = 5$ ) were converted by means of the recommended formulae by Lipsey and Wilson (2001) as well as Sánchez-Meca, Marín-Martínez, and Chacón-Moscó (2003). Means and standard errors ( $k = 4$ ) were converted by means of the formulae given by Lipsey and Wilson (2001). A positive sign of Hedges'  $g$  in the current meta-analysis denotes better negotiation outcomes for men than for women (cf. Stuhlmacher & Walters, 1999). Conversely, a negative sign of Hedges'  $g$  denotes better outcomes for women than for men.

### Multilevel Modeling for Meta-Analysis

The current research used a mixed-effects multilevel model to perform all meta-analytic procedures (Raudenbush & Bryk, 2002). In the current meta-analysis, many included studies provide more than one effect size (see Appendix). Experimental settings within studies, however, can be similar to each other (or even the same), potentially resulting in dependencies among effect sizes from a single study. By using a mixed-effects multilevel model, potential dependencies among effect sizes as well as the nested structure of meta-analytic data (i.e., multiple effect sizes from one study) can be addressed. In the following, we provide a description of the employed meta-analytic technique (see Raudenbush & Bryk, 2002, and Van den Noortgate & Onghena, 2003, for overviews; see Freund & Kasten, 2012, for a recent example).

The individual effect sizes  $d_{ms}$  ( $m = 1, \dots, M_s$ , in study  $s = 1, \dots, S$ ) are specified as the sum of their respective true effect sizes  $\delta_{ms}$  and sampling errors  $e_{ms}$  at Level 1, yielding the following measurement model:

$$d_{ms} = \delta_{ms} + e_{ms}. \quad (1)$$

For the sampling error  $e_{ms}$ , a normal distribution is assumed,  $e_{ms} \sim N(0, \nu^2)$ . Because the variance  $\nu^2$  of the error term is given, this is called a variance-known model for meta-analysis (Raudenbush & Bryk, 2002). Because the 123 effect sizes in the current meta-analysis are nested within 51 studies, we consider the level at the individual effect size as well as the level at the individual study (cf. Bijmolt & Pieters, 2001; Kalaian & Raudenbush, 1996). At the level of the individual effect size, the true effect sizes are regressed on moderators:

$$\delta_{ms} = \beta_{0s} + \sum_{k=1}^K \beta_{ms} X_{kms} + t_{ms}, \quad (2)$$

where  $\beta_{0s}$  is the studies' intercept,  $X_{kms}$  is the effect size characteristic  $k = 1, \dots, K$ , and  $\beta_{ms}$  depicts the respective coefficient. The error term  $t_{ms}$  is assumed to be normally distributed,  $t_{ms} \sim N(0, \tau^2)$ , and  $\tau^2$  is the variance of the true effect sizes. Finally, the study-specific intercept  $\beta_{0s}$  is decomposed into moderators at the study level and the error term  $u$ :

$$\beta_{0s} = \gamma_0 + \sum_{l=1}^L \gamma_l W_{ls} + u_s, \quad (3)$$

where  $\gamma_0$  is the Level 3 intercept,  $W_{ls}$  represents the study characteristic  $l = 1, \dots, L$ , and  $\gamma_l$  is the corresponding coefficient. The error component  $u_s$  is assumed to be normally distributed,  $u_s \sim N(0, \varsigma^2)$ .

In an unconditional model, no moderators are included in the model. Technically, the unconditional model reflects a random-effects model for meta-analysis. A model including moderators is termed a conditional model (Raudenbush & Bryk, 2002). The conditional model is a mixed-effects model since fixed effects for the moderators are considered additionally to random components. Given the nested structure of the unconditional model and the conditional model (including moderators), the relative fit of these models can be investigated by examining the difference in deviances between the nested models. Analyses were performed with the software HLM 6.08.

## Results

### Distribution of Effect Sizes

Of the 123 effect sizes, 83 (67.48%) were positive and in the hypothesized direction, and 40 (32.52%) were negative or equaled zero. These results provide initial support for Hypothesis 1, which predicts that men achieve higher economic outcomes than women, but at the same time also indicate variability of gender differences. The effect sizes ranged from  $g = -2.07$  to  $g = 2.14$ , also suggesting substantial variability. Fifty (41%) of the 123 effect sizes were smaller than an absolute value of  $g = 0.2$  (small effects; cf. Cohen, 1988), 48 effect sizes (39%) ranged from absolute values of  $g = 0.2$  to  $g = 0.8$  (medium effects), and 25 effect sizes (20%) exceeded an absolute value of  $g = 0.8$  (large effects).

To illustrate the distribution of effect sizes and to investigate a potential publication bias, we performed a funnel plot analysis. Figure 1 plots the magnitude of effect size (Hedges'  $g$  on the ordinate) against its standard error (on the abscissa). Effect sizes at

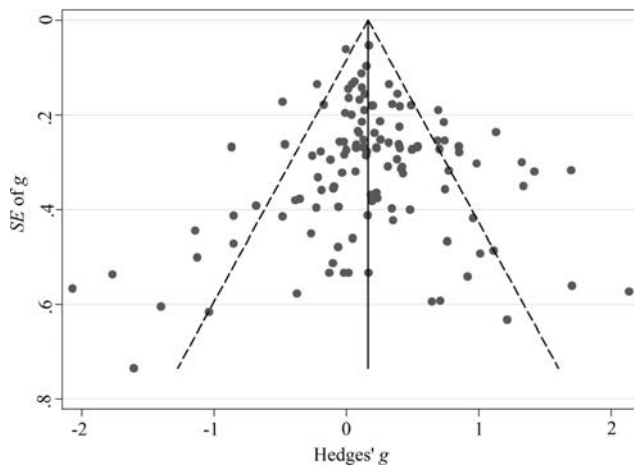


Figure 1. Funnel plot of the effect sizes.

a greater distance from the average are assumed to have larger standard errors, indicating less precision due to smaller samples. If many effect sizes fall outside the 95% confidence interval, it is assumed that especially large effect sizes get published although they are based on small samples (conversely, small effect sizes based on small samples do not get published). Another crucial aspect is reflected in the symmetry of the funnel: In the case of an asymmetric plot, it is assumed that studies reporting either positive or negative effect sizes are more readily published. For the current meta-analysis, Figure 1 shows a rather small number of effect sizes outside the confidence interval and a sufficient degree of symmetry. Consistently, Egger's tests (Egger, Davey Smith, Schneider, & Minder, 1997) were not significant, which minimizes concern about publication bias (coefficient = 0.25,  $t = 0.84$ ,  $p = .400$  for bias, and coefficient = 0.12,  $t = 1.86$ ,  $p = .065$  for slope, respectively).

### Overall Gender Difference and Assessment of Variability

Hypothesis 1 was tested by estimating the unconditional three-level model without any moderators specified in the multilevel model. We conducted a three-level model to control for potential dependencies among effect sizes and to address the nested structure of the meta-analytic data. For all following analyses, we used a full maximum likelihood estimator. In the unconditional model, the intercept was estimated at Hedges'  $g = 0.20$ ,  $t$  ratio = 4.31,  $p < .001$  (95% confidence interval: 0.11 to 0.29), which overall, indicates significantly higher economic outcomes for men as compared with women.

The variability of effect sizes in the current meta-analysis qualifies the obtained main effect. The variance component  $\tau^2$  at the effect size level was estimated at 0.13 and  $\tau$  was estimated at 0.36,  $\chi^2(72) = 220.62$ ,  $p < .001$ . The variance component  $\varsigma^2$  at the study level was estimated at 0.01, and  $\varsigma$  was estimated at 0.10,  $\chi^2(50) = 45.37$ ,  $p > .5$ . We also calculated the  $I^2$  statistic, which estimates the proportion of variability that is due to heterogeneity as opposed to chance (Higgins & Thompson, 2002). The  $I^2$  statistic<sup>3</sup> was estimated at 65.40%, indicating a medium to large degree of heterogeneity (Higgins & Thompson, 2002).

Of importance, we also estimated the prediction interval to examine the dispersion of effect sizes. The prediction interval addresses the distribution of true effect sizes (for an overview, see Borenstein et al., 2009) and thereby indicates how variable the effect sizes truly are. In the current meta-analysis, the prediction interval ranges from  $-0.41$  (in favor of women) to  $0.80$  (in favor of men). This result underscores the variability of effect sizes in the current meta-analysis and suggests that a single overall true gender difference does not exist. Together, these results suggest considerable influence of moderators on the gender difference in economic outcomes.

### Moderation of Gender Differences

Prior to analyzing the predicted moderation, we tested for multicollinearity among moderator variables. A principal component analysis for categorical data was performed because all considered moderator variables were dichotomous (e.g., Bijmolt, Van Heerde, & Pieters, 2005). As depicted in Table 1, the moderators correlate with each other. However, none of the correlations among moderator variables exceeded an absolute value of .5 (cf. Table 1), which is considered as threshold value for confounds among categorical moderator variables (Bijmolt et al., 2005). Accordingly, multicollinearity does not seem to represent a problem in the current meta-analysis.

In order to test for moderation of gender differences in economic outcomes, we estimated the conditional three-level model with the situation-based (advocacy and structural ambiguity), person-based (experience and self-initiation), and task-based (integrative potential) moderators simultaneously specified at Level 2. Table 2 depicts the results of the conditional model. Note that the reported coefficients reflect partial correlations and that the obtained results have to be interpreted in the context of the conditional model including all five moderators because the moderators were entered simultaneously. A negative sign for these coefficients indicates a reduced gender difference in line with predictions. The  $p$  values were divided in half because of our directed predictions (unless indicated otherwise). In the following, we report the results obtained from the meta-regression including all five moderators.

**Moderator effects in the conditional model.** As shown in Table 2, advocacy emerged as a moderator of the difference between men and women in economic outcomes in the conditional model. The gender difference favoring men was significantly attenuated when negotiators acted on behalf of a single individual as compared to negotiating for themselves or on behalf of a larger entity (coefficient =  $-0.31$ ,  $p = .003$ ; cf. Table 2). In addition to this analysis combining samples of participants negotiating for themselves ( $k = 30$ ) with samples of participants negotiating on behalf of a larger entity ( $k = 52$ ), we also conducted subgroup

<sup>3</sup> Note that  $I^2$  statistics for both the unconditional and conditional model as well as the prediction interval stem from the "traditional" random-effects method for meta-analysis, but not from the applied multilevel method in this meta-analysis (see Van den Noortgate & Onghena, 2003, for differences between the two methods). In the current multilevel meta-analysis, variance on the level of both, effect sizes and studies, is estimated. The between-studies variability, however, is not included in  $I^2$  statistics. For variability statistics resulting from the multilevel meta-analytical technique, see the variance components depicted in Table 2.



Table 1  
*Assessment of Multicollinearity: Correlations Between Optimally Scaled Moderators*

	1. Advocacy	2. Structural ambiguity	3. Negotiation experience	4. Self-initiated negotiation	5. Integrative potential
1	—				
2	-.46	—			
3	.17	-.44	—		
4	.38	-.38	.17	—	
5	.15	.45	-.15	-.20	—

Note.  $k = 123$  effect sizes included in this analysis.

comparisons to examine the robustness of the results and to examine the rationale to combine samples of participants negotiating for themselves and samples with participants representing larger entities. When excluding samples with participants negotiating on behalf of a larger entity ( $k = 52$ ), the gender difference in economic outcomes favoring men was still significantly reduced in samples of participants negotiating for another individual as compared with samples of participants negotiating for themselves, coefficient =  $-0.21$ ,  $t$  ratio ( $df = 65$ ) =  $-2.50$ ,  $p = .015$  (two-tailed). By contrast, the gender difference was not significantly reduced for participants negotiating on behalf of a larger entity as compared to participants negotiating for themselves (excluding studies with negotiators advocating for single individuals;  $k = 41$ ), coefficient =  $0.09$ ,  $t$  ratio ( $df = 76$ ) =  $0.92$ ,  $p = .362$  (two-tailed). Advocacy only moderated the gender difference in economic outcomes when operationalized as negotiating on behalf of a single individual.

Concerning structural ambiguity, the conditional model including the five moderators revealed a significant moderator effect in that the gender difference in favor of men was decreased when negotiators were provided with information about the bargaining range. As depicted in Table 2, the coefficient was estimated at  $-0.25$ ,  $p = .021$ . Negotiation experience also emerged as a moderator of the overall gender difference in the conditional model: The gender difference was significantly reduced when negotiators had experience (coefficient =  $-0.26$ ,  $p = .017$ ). In order to test the robustness of this result, we excluded MBA and executive training samples ( $k = 33$ ) and investigated whether experience still moderated the gender difference, which led to virtually the same result for experience (coefficient =  $-0.31$ ,  $p = .030$ , two-tailed). These results also suggest that the observed moderator effect of experience was not just a consequence of participants' MBA student or executive status.

For self-initiated negotiation, the meta-regression analysis did not reveal a significant reduction of the gender difference in economic outcomes when participation was self-initiated as compared with when participation was compulsory (coefficient =  $-0.07$ ,  $p = .270$ ). Similarly, it did not reveal a moderator effect of the integrative potential of negotiations (coefficient =  $0.23$ ,  $p = .143$ , two-tailed).<sup>4</sup>

**High- versus low-role incongruity for women.** The meta-regression including all five moderators allowed us to examine the magnitude of the gender difference for certain configurations of moderators. First, we examined the gender difference under conditions expected to yield the highest role incongruity for women and therefore the largest gender difference favoring men (when

women are negotiating for themselves, are not experienced, in negotiations that are distributive with high structural ambiguity and that are compulsory). Note that the largest predicted gender difference equals the intercept in the meta-regression because all moderators were dummy-coded as 0 = undiminished gender difference predicted, and 1 = reduced gender difference predicted (with the intercept being the value of the dependent variable [here Hedges'  $g$ ] when all variables in the regression assume the value of zero). As shown in Table 2, the intercept in the meta-regression is estimated at Hedges'  $g = 0.49$ , reflecting a medium-sized effect, which is larger than the gender difference estimated in the unconditional model (see above). However, when all moderators assume values predicted to *increase* role congruity for women, the gender difference favoring men is not only eliminated but even reversed: When summing up all coefficients depicted in Table 2 (third column), the gender difference is estimated at Hedges'  $g = -0.17$  (when summing up only coefficients for significant moderators, the gender difference is estimated at  $g = -0.33$ ). This result suggests a negotiation advantage for women when they possess

<sup>4</sup> We also investigated each moderator separately in subgroup analyses. The following values for Hedges'  $g$  were obtained for the different subgroups: concerning advocacy,  $g = 0.25$  for negotiating for self or larger entity,  $g = 0.05$  for negotiating for individual,  $p = .008^\dagger$ ; concerning structural ambiguity,  $g = 0.14$  for no information provided,  $g = 0.23$  for information available,  $p = .210$ ; concerning experience,  $g = 0.36$  for no experience,  $g = 0.12$  for experience,  $p = .028^\dagger$ ; concerning self-initiated negotiation,  $g = 0.32$  for not self-initiated,  $g = 0.16$  for self-initiated,  $p = .084^\dagger$ ; concerning integrative potential,  $g = 0.16$  for distributive negotiations,  $g = 0.21$  for negotiations with integrative potential,  $p = .550$  ( $^\dagger$  denotes halved  $p$ -values due to directed predictions). In summary, these analyses revealed the same significant effects concerning advocacy and experience, but the predicted effect for structural ambiguity did no longer emerge. However, given that subgroup analyses do not take into account correlations among the moderator variables—in contrast to the meta-regression analysis we applied in our main moderator analysis—the moderator effect for structural ambiguity may be concealed due to suppressor effects and/or due to the fact that the observed positive and negative correlations with the other moderators (cf. Table 1) may balance a moderator finding out. Furthermore, the subgroup analyses complicate the interpretation of the moderator effects as the comparison standard (i.e., the subgroup for which an undiminished gender difference is expected, e.g., inexperienced negotiators) changes with each subgroup analysis. The comparison standard against which the moderator effect for structural ambiguity is examined is much lower in this subgroup analysis (i.e.,  $0.14$ ) as compared with, for example, the subgroup analysis on experience (i.e.,  $0.36$ )—also complicating an assessment of the true effect. This reasoning and our decision to mainly apply a meta-regression analysis is corroborated by previous research that has, for instance, shown moderator effects for ambiguity in both a field and laboratory setting (Bowles et al., 2005).

Table 2  
*Mixed-Effects Moderator Analysis of Gender Differences (Conditional Model)*

	<i>k</i>	Coefficient	<i>SE</i>	95% CI	<i>t</i> ratio	<i>p</i>
Fixed effects						
Intercept (mean)		0.49	0.13	[0.23, 0.74]	3.81	.001
Advocacy	41	−0.31	0.11	[−0.53, −0.09]	−2.86	.003 <sup>†</sup>
Structural ambiguity	70	−0.25	0.12	[−0.50, −0.01]	−2.05	.021 <sup>†</sup>
Negotiation experience	82	−0.26	0.12	[−0.49, −0.02]	−2.16	.017 <sup>†</sup>
Self-initiated negotiation	96	−0.07	0.11	[−0.29, 0.15]	−0.62	.270 <sup>†</sup>
Integrative potential	94	0.23	0.15	[−0.08, 0.53]	1.47	.143
Variance component						
				$\chi^2$	<i>df</i>	<i>p</i>
Random effects						
Within study, $\tau^2$		0.11		207.86	67	.000
Between studies, $\delta^2$		0.00		44.29	50	>.5

*Note.* *k* indicates the number of effect sizes coded as 1 = attenuated gender difference predicted. The coefficients for the moderator variables reflect multilevel regression coefficients. A negative sign for these coefficients indicates a reduced gender difference in line with predictions. <sup>†</sup> denotes *p* values that are halved because of directed predictions.

negotiation experience, are negotiating for an individual, and so forth. Together, the gender difference in economic outcomes thus changed from Hedges'  $g = 0.49$  to Hedges'  $g = -0.17$ —a difference of 0.66—when moving from conditions with highest to lowest predicted role incongruity for women. This result highlights the fact that, generally, gender differences depend on the context, and more specifically, can even be reversed.

**Overall conditional model.** As an indicator of the overall conditional model, we tested whether the inclusion of moderators was effective in accounting for effect size variability. This was done by comparing the fit of the unconditional model with the fit of the conditional model including all five moderators by examining the difference in deviances of the two nested models. A significantly superior fit to the data was obtained for the conditional as compared to the unconditional model,  $\chi^2(5) = 13.25, p = .021$ . In other words, the conditional model including moderators explained the data better than the unconditional model. The inclusion of moderators likewise decreased the variance component  $\tau^2$ , estimated at 0.11 in the conditional model. The variance component  $\tau^2$ , however, remained significant even after including moderators in the conditional model ( $p < .001$ ; cf. Table 2). To provide the reader with a more intuitive indicator of the amount of variance explained in the conditional model including all moderators, we computed an analogous index of  $R^2$  (Borenstein et al., 2009) by calculating the ratio of  $\tau^2$  in the conditional model (including moderators) and  $\tau^2$  in the unconditional model, and then subtracting this ratio from 1. The amount of variance explained in the conditional model was estimated at 15.16%. Together, although the conditional model explained the data significantly better than the unconditional model, this result suggests that a relatively large proportion of variance of effect sizes is still unexplained after including the five moderators. This ratio of explained and unexplained variance is similar to other meta-analyses on gender investigating related topics (e.g., social dilemmas, cf. Balliet, Li, Macfarlan, & Van Vugt, 2011; see also the meta-analysis on negotiation behavior by Walters et al., 1998) with comparable numbers of moderators. The  $I^2$  statistic was estimated at 63.19% in the conditional model.

## Discussion

This meta-analysis investigated gender differences in economic negotiation outcomes. The results revealed that, although men achieved on average significantly better economic outcomes than women (supporting Hypothesis 1), gender differences varied systematically in line with predictions. Consistent with role theories (e.g., Eagly & Karau, 2002; Stuhlmacher & Linnabery, 2013), our results support the idea that aspects of negotiating are—under certain conditions—incongruent with the female gender role. In the present research, we examined situation-based, person-based, and task-based moderators and obtained meta-analytic evidence of moderation of gender differences in economic outcomes. Our results suggest that gender differences in negotiation depend both on the situation (Bowles et al., 2005; Kray et al., 2001) as well as on the persons involved, and, therefore, are variable. This conclusion is underscored by the prediction interval which showed high dispersion of effect sizes and ranged from  $-0.41$  in favor of women to  $0.80$  in favor of men. One of the main conclusions that can be drawn from this meta-analysis is that differences between men and women in negotiation outcomes are context-bound. We hence focus on the role of context in our research synthesis of gender differences in economic negotiation outcomes.

## Gender Differences in Context

In this research, we examined gender differences under conditions expected to yield high versus low role incongruity for women in a conditional model. Notably, the results revealed a bargaining advantage for men under conditions of highest predicted role incongruity for women (when negotiators are not experienced, in negotiations with high structural ambiguity, and so forth), but a bargaining advantage for women under conditions of lowest predicted role incongruity (when they possess negotiation experience, are negotiating for an individual, and so forth). This finding suggests that gender differences favoring men cannot only be reduced but can be reversed, as has been suggested in the empirical literature (Bowles et al., 2005; Kray et al., 2001). In addition to practical implications, our findings support the role congruity

approach given that the gender difference favoring men was generally decreased when negotiating was more congruent with the female gender role (e.g., when advocating for another person), and reversed under conditions most congruent with the female role.

Our meta-analysis investigated situation-based (i.e., advocacy and structural ambiguity), person-based (i.e., experience and self-initiated negotiation), and task-based (i.e., integrative potential) moderators of gender differences in negotiation outcomes. The conditional model including the five theoretically derived moderators revealed several findings. First, a situation-based moderator of advocacy—if the negotiation was for another individual as compared with for oneself or on behalf of a larger entity—emerged as a significant moderator in the conditional model. The gender difference in economic outcomes favoring men was significantly attenuated when negotiators acted on behalf of another individual instead of for themselves. Previous results from primary studies (e.g., Amanatullah, 2007; Bowles et al., 2005) thus received meta-analytic support. It is interesting to note, however, that this was not the case when negotiators acted on behalf of a larger entity like an organization, but only when acting for another individual.

As discussed, when negotiators represent a large entity such as an organization, it can be unclear for whom they are essentially negotiating. Especially when negotiators are employees of this organization, it can appear that they are simultaneously (or even primarily) acting in their own interests. Women's assertiveness in this situation may appear as misaligned with the female role in comparison with when they negotiate a friend's salary. This can increase women's risk of incurring backlash for role deviations so that women might not display more effective behavior such as competitiveness when they represent a larger entity (Song, Cadsby, & Morris, 2004), and, as a result, do not achieve better economic outcomes than men. At the same time, negotiating counterparts may perceive women's assertive negotiation behavior as gender role deviation. Interestingly, as published primary studies focusing on this moderator operationalized the other-advocating condition as negotiating on behalf of a single individual (e.g., Amanatullah, 2007; Bowles et al., 2005), the current research points to a boundary condition of the effects of advocacy as a moderator of gender differences in negotiation (with the included studies providing the data for these analyses). It remains to be seen if this effect would hold when persons are negotiating for smaller social entities such as a team, workgroup, or family.

We examined structural ambiguity as a second situation-based moderator of gender differences in economic outcomes in the conditional model. Consistent with predictions and previous research (Bowles et al., 2005), the results of the conditional three-level model revealed that the gender difference favoring men was significantly reduced when negotiators were provided with information about the bargaining range. Our meta-regression results therefore parallel results from primary studies investigating a moderation of the gender difference by structural ambiguity and showing a diminished gender difference when negotiators were provided with information about the range (cf. Bowles et al., 2005).

The third variable, a person-based moderator, examined in the conditional model was negotiation experience. As predicted, the gender difference in economic outcomes favoring men was significantly reduced when negotiators had negotiation experience. Gender differences in economic outcomes thus do not appear to be

static, but rather to diminish with experience. Although the included studies provided the primary data to examine the moderating effect of experience, this meta-analysis is to our knowledge the first study to specifically demonstrate this effect, and to provide a theoretical explanation for the moderating effect of negotiation experience on gender differences in negotiation outcomes. Therefore, this finding represents an extension of previous research and an avenue for future research in the broader negotiation field as well as in studies relating to gender differences. Studies are needed that investigate the underlying processes by which negotiation experience reduces the gender difference. Gaining experience might enable negotiators to develop a situation-specific protocol or script of appropriate behavior that might override the influence of more general gender role scripts as default option. Accordingly, future research might examine whether women display less female role-congruent behavior over time with increasing negotiation experience. A recent study found that women also incurred less backlash when they were conferred a higher status (i.e., executive vice president for human resources), which may also signal more experience (Amanatullah & Tinsley, 2013a). This is another avenue for future research, as well as considering the generalizability of experience across negotiation situations.

The second person-based moderator in our full conditional model was whether the participation in the negotiation was self-initiated or potentially more compulsory. Self-initiating a negotiation is less congruent with the female gender role (Stuhlmacher & Linnabery, 2013). Hence, women deviating from the female role by initiating negotiations might also deviate *during* negotiations and display more assertive behaviors. However, our results did not show a statistically significant impact related to gender in economic outcomes in the conditional model when participation was self-initiated. As a potential explanation for the lack of the effect, it could be that women behave consistently with the female role although they choose to negotiate. For example, negotiation courses are frequently elective and people thus initiate negotiations. However, negotiation was found to be "the most popular business school course" (Thompson & Leonardelli, 2004, p. 1). Given this popularity, choosing negotiation courses might not reflect a gender role deviation for women but may even be a prevailing convention among business school students. If choosing a negotiation course is not a sign of a voluntary gender role deviation, women might be less likely to deviate from the female role. As a result, they might display less effective behaviors in the negotiation situations although they self-initiated negotiation.

However, in addition to the woman's behavior, the decision of women to initiate a negotiation likely influences the perceptions of their negotiating counterparts. A second and equally important explanation may thus focus on backlash that women can incur for initiating negotiations (Bowles et al., 2007). Backlash might also include economic sanctions such as a reduced willingness to grant concessions. As a result, outcomes might still favor men when women self-initiate negotiations due to potential economic and interpersonal sanctions displayed by their opponents.

To address an unresolved research question, we examined whether gender differences were moderated by the integrative potential of negotiations. The conditional model did not show moderation by the integrative potential of negotiations. Our finding thus parallels recent results showing better integrative outcomes among men as compared with women (Calhoun & Smith,

1999; Curhan et al., 2008; Miles & LaSalle, 2009). Nevertheless, it is possible that negotiations are often approached with “fixed pie” perceptions regardless if there is integrative potential or not (Thompson & Hastie, 1990). Additionally, tasks vary to the extent that negotiators are instructed to cooperate or look for integrative solutions, which might influence the ambiguity of the task to some extent, and to some degree might also influence the role congruity of the negotiation. This is another important avenue for future research.

The current study found an overall gender difference favoring men which was larger and—most interestingly—more variable than in the study by Stuhlmacher and Walters (1999). In this respect, the variance component was significant in the current meta-analysis (see above), while the corresponding coefficient in the previous meta-analysis was not. It is likely that the increased variability is due to a more systematic exploration of reasons for gender differences and the conditions under which gender differences emerge in negotiation (e.g., Bowles et al., 2005; Kray et al., 2001). This development seems to be triggered by prior gender meta-analyses indicating gender differences (e.g., Walters et al. 1998). With increasing knowledge about mechanisms underlying gender differences, gender differences can be more easily revealed. Similarly, more recent research has also examined moderators that might reduce gender differences (e.g., advocacy or structural ambiguity; Bowles et al., 2005). These dynamics can increase both the size of the overall gender difference and its variability because demonstrating a reduction of gender differences in one experimental condition, for example, requires showing a gender difference in another one. Moreover, in contrast to a previous meta-analysis (Stuhlmacher & Walters, 1999), we did not include a few studies in which the authors only reported that gender differences were “not significant” and provided no statistics enabling the computation of an effect size (e.g., Kemp & Smith, 1994; see above). Although these were only six studies, this exclusion of studies might have contributed to a larger overall gender difference in the current meta-analysis.

### Theoretical Implications

In the current meta-analysis, we applied role congruity theory (Eagly & Karau, 2002; Stuhlmacher & Linnabery, 2013) as unifying theoretical framework. The extension of role congruity theory to the context of gender differences in negotiation proved to be useful because, first, it provided a coherent framework allowing for the derivation of clear predictions for the tested moderators. Second, by connecting certain moderating conditions (e.g., other-advocacy, low structural ambiguity, negotiation experience) with an increase in role congruity as the overarching moderating principle, the role congruity account is parsimonious in the number of required theoretical assumptions. Third, our data analysis provided empirical support for the majority of our predictions as derived from social role theories and illuminated the finding of relatively pronounced (highest female role incongruity) and reversed (lowest female role incongruity) gender differences in economic outcomes in the conditional model.

Interestingly, hypotheses could also have been derived from other perspectives, including stereotype threat (e.g., Kray et al., 2001), power differences among men and women (e.g., Watson & Hoffman, 1996), and biological or evolutionary accounts (e.g.,

Buss, 1995). However, in contrast to other accounts, role congruity theory not only explains main effects for gender but also offers coherent predictions regarding the examined moderators. For example, the moderating role of negotiation experience from either a power differences perspective or an evolutionary account is less obvious.

A stereotype threat approach might also be conceivable in explaining some of the observed moderator effects. In line with social role theories, the stereotype threat approach would posit that gender differences are qualified by context conditions because the influence of stereotypes may vary depending on the specific situation (Kray et al., 2001). This tenet of the stereotype threat approach is supported by the current meta-analytical findings as two situation-based factors moderated the gender difference in economic outcomes in the conditional model. However, the stereotype threat approach would have also generated unclear hypotheses in the current meta-analysis: In the case of experience, for instance, three different—and diverging—predictions would have been possible from a stereotype threat perspective: increase, decrease, and stability of gender differences with increased negotiation experience. An increase in specific experience is often associated with greater value attached to the task domain because experience is often gained in domains people feel attracted to. The stereotype threat approach predicts the strongest threat effects (i.e., an increase in gender differences) in domains that people highly value (Aronson et al., 1999; Keller & Dauenheimer, 2003; Steele & Aronson, 1995).

Alternatively, a decrease in gender differences—paralleling the prediction derived from role congruity theory—could also have been derived from a stereotype threat perspective. With increasing experience, it should be easier for negotiators to achieve satisfactory outcomes and they should thus feel less challenged by the negotiation. As a result, experience should make it more difficult for stereotype threat to do harm (cf. Steele & Aronson, 1995). Thus, a reduction of gender differences with increased task experience could also be expected. Finally, the prediction of stable gender differences with increased negotiation experience might have been possible as well. Based on extant stereotype threat studies often using tasks employing well-learned content (e.g., verbal ability or mathematics tasks; cf. Spencer, Steele, & Quinn, 1999; Steele & Aronson, 1995), it could have been predicted that task experience would not moderate gender differences in negotiation.

Although the stereotype threat approach has particular strengths in explaining findings relating to areas like stereotype regeneration (e.g., Kray, Galinsky, & Thompson, 2002)—and thus also represents a useful theoretical framework for current and future research—it would have led to more ambiguous predictions in the context of our study. Therefore, we used role congruity theory as unifying framework to derive moderator predictions in the current research. Social role theories may also provide a helpful framework for future negotiation research on gender (cf. Stuhlmacher & Linnabery, 2013).

### Practical Implications

The present meta-analysis also has various practical implications. While men were found to achieve better economic outcomes as compared to women on average, the observed overall gender

difference was small ( $g = 0.20$ ), and highly variable. On the other hand, “even small and situationally bound effects can have economically important implications (Eagly, 1996)” (Bowles et al., 2005, p. 963). Given that organizational resources such as salary or promotion are often negotiated, gender differences in economic negotiation outcomes may contribute to gender inequalities in the workplace (Kulik & Olekalns, 2012; Stuhlmacher & Walters, 1999). As an example, women in the United States of America earned on average 77.4% of men’s median annual earnings in 2011 (Institute for Women’s Policy Research, 2012)—a disparity which is assumed to be partially attributable to gender differences in negotiations (Amanatullah & Tinsley, 2013b; Kulik & Olekalns, 2012; Stuhlmacher & Walters, 1999). Small-sized effects may increase over time and over multiple negotiations: For instance, pay raises are often based on starting salaries so that “. . . even small differences in outcomes for just one kind of negotiation (starting salary) can add up to large differences over an entire career” (Gerhart & Rynes, 1991, p. 261). Under conditions of high role incongruity, women may thus (literally) incur costs in negotiation over time and different occasions.

As shown above, however, the current results highlight the fact that the impact of gender in negotiation depends on the context. This meta-analysis suggests ways to attenuate and even reverse gender differences favoring men. Given the observed moderation by negotiation experience in the conditional model, women might benefit from negotiation training or simulations more than men. Such interventions potentially enable all negotiators to gain negotiation experience and to develop a skill set of effective negotiation behaviors but the experiences seem more impactful for women. Training might reduce the ambiguity in future negotiations and increase role congruity for women. As a result, gender differences favoring men in negotiation as well as their associated consequences such as salary disparities might be mitigated.

In line with previous research (Bowles et al., 2005), our conditional model also revealed that the gender differences in economic outcomes were smaller when negotiators were provided with information about the bargaining range. Thorough preparation for negotiations might thus be especially helpful for female negotiators in attaining high economic outcomes. For instance, by collecting information about the range and average value of salaries for a specific job, female negotiators are provided with information about the bargaining range and might thus rely less on preconceived gender roles as guidelines for their behavior in negotiations. Additionally, women’s negotiating opponents might not regard an ambitious salary request as a role deviation when it is demonstrated that the request is in the range of typical salaries. In line with this reasoning, a previous field study has shown that gender differences in salaries are in fact moderated by the structural ambiguity of negotiation situations (Bowles et al., 2005).

However, interventions should also consider the potential risks for women deviating from gender roles (Wade, 2001). Because behaviors that increase economic outcomes such as assertiveness are incongruent with communal prescriptions (Eagly & Karau, 2002), women deviating from the female role risk incurring backlash (Rudman & Phelan, 2008). Therefore, even when women have negotiation experience or are well prepared, they risk incurring backlash for negotiating assertively if people regard their assertiveness as role deviations. Women’s assertiveness, however, is aligned with communal prescriptions when they advocate for

other individuals such as friends (Amanatullah & Tinsley, 2013b; Tinsley et al., 2009). The results of our conditional model show that women also achieved better economic outcomes when they were advocating for another individual (cf. Bowles et al., 2005). In negotiations conducted on behalf of or for the benefit of others, women may thus capitalize on the resulting higher role congruity. Negotiating for another individual might thus likewise reduce gender differences in negotiation and their associated consequences—and possibly also free experienced and/or well prepared women from the risk of incurring backlash. Note, however, that the above remedies might not be applicable in all situations. Although the suggested interventions from the current meta-analysis have potential in many situations, future research is needed to investigate approaches that may even be more broadly applicable.

Beyond the implications relating to increasing women’s negotiation outcomes, our conditional model revealed that the gender difference favoring men was reversed under conditions of lowest predicted role incongruity for women. This finding suggests a bargaining advantage for women under certain conditions (cf. Bowles et al., 2005; Kray et al., 2001). Therefore, when negotiators possess, for instance, negotiation experience and are advocating for another individual, it may be a context where women achieve better outcomes than men.

### Limitations and an Agenda for Future Research

The current meta-analysis is limited in several ways because the existing primary studies do not allow for a conclusive investigation of all theoretically relevant moderators of gender differences in negotiation. In the current meta-analysis, gender differences were found to be highly variable. Although the conditional model including moderators explained the data significantly better than the unconditional model, much variance remained unexplained (for comparable results in meta-analyses on gender, see Balliet et al., 2011; Walters et al., 1998). In this respect, the variance component  $\tau^2$  remained large and significant even after including moderators (cf. Table 2; see also the statistic analogous to  $R^2$ ; cf. Borenstein et al., 2009). These findings suggest that further moderators are likely to influence role congruity for women in negotiation beyond the moderators tested in the current research (e.g., Stuhlmacher & Linnabery, 2013). Similarly, with the current study being a meta-analysis and not a laboratory experiment, it is clearly possible that confounds that were not studied or measured may also influence gender differences—despite the observed parallels to previous findings obtained in laboratory experiments (Amanatullah, 2007; Bowles et al., 2005). Given these limitations of the current study, we outline an agenda for future research and call for (experimental) primary research on gender differences in negotiation to tap into moderators that could not have been conclusively tested here.

First, people’s gender role orientation is likely to moderate gender differences in negotiation. The term gender role orientation refers to people’s beliefs about appropriate roles for men and women (cf. Judge & Livingston, 2008). The more people endorse traditional roles, the more they may enact traditional gender role behaviors. Women strongly endorsing traditional gender roles might thus display mostly feminine behaviors such as submissiveness, rendering their economic outcomes worse. Judge and Livingston (2008), for instance, showed that a traditional gender role orientation among women is slightly negatively related to their earnings. In addition to the gender role orientation of a focal negotiator, the orientation of one’s negotiating

counterpart may also be influential: The less people hold a traditional gender role orientation, the more latitude towards gender role deviations might be granted. Women might thus negotiate more effectively while incurring less backlash when negotiating with a counterpart holding a more egalitarian orientation. Focused research tapping into this person-related variable would be fruitful.

Second, the dyad gender composition—that is male–male vs. female–female vs. female–male dyads—may moderate gender differences in negotiation (Kray & Thompson, 2005; Miles & LaSalle, 2009; Stuhlmacher & Linnabery, 2013). Based on self-categorization theory (e.g., Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), gender roles should be most salient in male–female dyads because both men and women are present at the bargaining table (Stuhlmacher & Linnabery, 2013). Gender differences in negotiation may thus vary over different dyad gender compositions. Unfortunately, very few studies provide information and data that allow a comprehensive comparison of male–male versus female–female versus male–female dyads. Future studies are thus needed that carefully investigate and report achieved individual and joint outcomes in those different dyad compositions (cf. Miles & LaSalle, 2009). Similarly, few studies explicitly activate gender stereotypes, or link female traits to negotiation success (Kray et al., 2002; Kray, Reb, Galinsky, & Thompson, 2004)—also precluding a comprehensive test of these moderators in the current research.

Another area for future research may be the cultural background of negotiators. Gender roles—and therefore gender prescriptions for men and women—vary across cultures (Eagly & Karau, 2002; Wood & Eagly, 2010). The primary studies considered in the current meta-analysis (as well as in the earlier study by Stuhlmacher & Walters, 1999), however, include mainly participants from the United States and European countries that are described as rather individualistic and masculine (e.g., Hofstede, 1980). It is thus important to explore whether gender differences in negotiations favoring men are, for instance, reduced or even reversed in more matrilineal cultures (cf. Andersen, Ertac, Gneezy, List, & Maximiano, 2012). In the current meta-analysis, however, few effect sizes include participants from such cultures. Conducting cross-cultural studies hence represents a promising avenue for future research on gender differences in negotiations.

Finally, aspects of negotiators' organizational background (e.g., Curhan et al., 2008) may impact the incongruity for women in negotiation. For example, specific social norms within organizations may override the influence of gender roles as guidelines for negotiators' behaviors. Similarly, in the presence of a large number of female executives or role models within organizations, it may be considered more appropriate for women to assert for workplace outcomes such as high negotiation outcomes (Tinsley & Amanatullah, 2008; Tinsley et al., 2009). It is likely that gender differences in negotiation are moderated by other factors that increase or decrease the role incongruity for women in negotiation. Moreover, our meta-analysis tested only certain operationalizations of the investigated constructs (Cooper, 2009). For example, negotiation performance may not only include economic outcomes but also the relationship among negotiators (Curhan, Elfenbein, & Xu, 2006), or advocacy may take the form of negotiating for one's family. Future research is thus desirable that provides insights about the investigated constructs beyond the current operationalizations. In conclusion, conducting future research carefully investigating these avenues may be a worthwhile endeavor.

## Conclusion

Although gender differences in negotiation have been the focus of much negotiation research, evidence concerning the relative effectiveness of women and men has often generated more questions than answers. In the current meta-analysis, we theoretically and statistically integrate previous research and examine gender differences in economic negotiation outcomes. Based on the available data, although men appeared to achieve slightly better economic outcomes than women on average, gender differences were shown to systematically vary in line with predictions derived from role congruity theory (Eagly & Karau, 2002). We introduce two previously unexamined moderators and provide meta-analytical evidence of moderation of gender differences in economic outcomes: The gender difference favoring men was reduced when negotiators had negotiation experience, were provided with information about the bargaining range, and when advocating for another individual. Equally important, the gender difference favoring men was even reversed under conditions of lowest role incongruity for women. Our meta-analysis thus shows that differences between men and women in economic outcomes are not inevitable but strongly depend on the context. We hope that our findings stimulate further research on gender differences in economic negotiation outcomes.

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## Appendix

### Overview of Included Primary Studies With Effect Sizes ( $k = 123$ ), Sample Sizes, Variances, and Moderator Values

No.	Study	Hedges' $g$	Variance	$n$	Moderators				Integrative potential
					Advocacy	Structural ambiguity	Experience	Self-initiation	
1	Amanatullah (2007)	0.92	0.29	14	Self	Information available	Yes	Yes	No
2		-0.10	0.26	14	Individual	Information available	Yes	Yes	No
3		1.01	0.24	17	Self	Information available	Yes	Yes	No
4		-1.04	0.38	10	Individual	Information available	Yes	Yes	No
5	Amanatullah et al. (2008)	0.75	0.06	70	Larger entity	Information available	Yes	Yes	Yes
6	Andersen et al. (2012)	-1.61	0.54	8	Self	No information	Yes	Yes	No
7		-0.48	0.03	138	Self	Information available	No	Yes	No
8	Anderson & Thompson (2004)	0.15	0.08	52	Self	No information	Yes	Yes	Yes
9	Barron (2003)	0.43	0.10	38	Self	No information	Yes	Yes	Yes
10	Bowles et al. (2005)	1.42	0.10	48	Larger entity	No information	No	Yes	No
11		0.40	0.07	55	Larger entity	No information	No	Yes	No
12		0.16	0.17	26	Self	No information	Yes	Yes	No
13		-0.48	0.17	27	Individual	No information	Yes	Yes	No
14		-1.14	0.20	22	Individual	No information	Yes	Yes	No
15		0.36	0.18	21	Self	No information	Yes	Yes	No
16		0.20	0.15	26	Individual	No information	Yes	Yes	No
17		-0.35	0.14	27	Self	No information	Yes	Yes	No
18	Bowles & Flynn (2010)	0.54	0.07	57	Larger entity	Information available	No	Yes	Yes
19	Calhoun & Smith (1999)	0.50	0.07	54	Larger entity	Information available	No	No	Yes
20		0.23	0.07	54	Larger entity	Information available	No	No	Yes
21		0.07	0.07	54	Larger entity	Information available	No	No	Yes
22		1.33	0.09	53	Larger entity	Information available	No	No	Yes
23		1.70	0.10	53	Larger entity	Information available	No	No	Yes
24	Carnevale & Lawler (1986)	-0.85	0.17	24	Individual	Information available	No	Yes	Yes
25		0.48	0.16	24	Individual	Information available	No	Yes	Yes
26		-0.06	0.16	24	Individual	Information available	No	Yes	Yes
27		0.34	0.16	24	Individual	Information available	No	Yes	Yes
28	Chan (1993)	0.06	0.02	240	Larger entity	Information available	Yes	Yes	Yes
29	Cotter & Henley (2004)	0.00	0.00	1,042	Larger entity	No information	Yes	Yes	No
30	Craver (1990)	-0.19	0.13	40	Individual	No information	Yes	Yes	Yes

(Appendix continues)

Appendix (continued)

No.	Study				Moderators				Integrative potential
		Hedges' <i>g</i>	Variance	<i>n</i>	Advocacy	Structural ambiguity	Experience	Self-initiation	
31		0.65	0.35	36	Individual	No information	Yes	Yes	Yes
32		-0.09	0.12	31	Individual	No information	Yes	Yes	Yes
33		0.19	0.14	28	Individual	No information	Yes	Yes	Yes
34		-0.10	0.13	31	Individual	No information	Yes	Yes	Yes
35		-0.68	0.15	26	Individual	No information	Yes	Yes	Yes
36		0.23	0.14	31	Individual	No information	Yes	Yes	Yes
37		-0.06	0.23	29	Individual	No information	Yes	Yes	Yes
38		0.42	0.10	45	Individual	No information	Yes	Yes	Yes
39		-0.03	0.10	46	Individual	No information	Yes	Yes	Yes
40		0.07	0.10	43	Individual	No information	Yes	Yes	Yes
41		-0.12	0.09	45	Individual	No information	Yes	Yes	Yes
42		-0.01	0.08	55	Individual	No information	Yes	Yes	Yes
43		0.08	0.07	58	Individual	No information	Yes	Yes	Yes
44		0.32	0.07	59	Individual	No information	Yes	Yes	Yes
45	Craver (2002)	-0.26	0.08	48	Individual	No information	Yes	Yes	Yes
46		-0.02	0.07	59	Individual	No information	Yes	Yes	Yes
47		-0.05	0.07	59	Individual	No information	Yes	Yes	Yes
48		0.26	0.06	62	Individual	No information	Yes	Yes	Yes
49		0.70	0.07	56	Individual	No information	Yes	Yes	Yes
50		-0.19	0.08	51	Individual	No information	Yes	Yes	Yes
51		0.41	0.10	40	Individual	No information	Yes	Yes	Yes
52		0.39	0.09	46	Individual	No information	Yes	Yes	Yes
53		0.15	0.08	48	Individual	No information	Yes	Yes	Yes
54		0.32	0.10	41	Individual	No information	Yes	Yes	Yes
55		-0.21	0.11	35	Individual	No information	Yes	Yes	Yes
56		0.13	0.06	61	Individual	No information	Yes	Yes	Yes
57	Curhan et al. (2010)	0.14	0.02	164	Self	Information available	Yes	No	Yes
58	Curhan et al. (2008)	1.13	0.06	82	Self	Information available	No	No	Yes
59	Curhan & Overbeck (2008)	0.21	0.06	94	Self	Information available	Yes	No	Yes
60		0.10	0.06	94	Self	Information available	Yes	No	Yes
61	Curhan & Pentland (2007)	0.04	0.04	100	Self	Information available	Yes	Yes	Yes
62	Elfenbein et al. (2008)	0.02	0.03	149	Larger entity	Information available	Yes	Yes	Yes
63	Flynn & Ames (2006)	0.00	0.07	52	Larger entity	Information available	Yes	No	Yes
64	Foo et al. (2004)	0.14	0.02	164	Larger entity	Information available	No	No	Yes
65	Hiller (1982)	-0.13	0.28	12	Individual	Information available	No	Yes	Yes
66		-0.02	0.28	12	Individual	Information available	No	Yes	Yes
67		0.02	0.28	12	Individual	Information available	No	Yes	Yes
68		0.17	0.28	12	Individual	Information available	No	Yes	Yes
69	Honts (1997)	0.77	0.10	42	Larger entity	Information available	No	Yes	Yes
70		0.75	0.13	36	Larger entity	Information available	No	Yes	Yes
71		1.34	0.12	40	Larger entity	Information available	No	Yes	Yes
72		0.96	0.17	24	Larger entity	Information available	No	Yes	Yes
73		0.99	0.09	48	Larger entity	Information available	No	Yes	Yes
74		-0.23	0.16	24	Larger entity	Information available	No	Yes	Yes
75	Hüffmeier & Richter (2012)	0.08	0.07	54	Self	No information	Yes	Yes	No
76	Hüffmeier et al. (2012)	0.74	0.05	100	Larger entity	Information available	Yes	No	Yes
77	Imai & Gelfand (2010)	0.69	0.04	124	Larger entity	Information available	Yes	Yes	Yes
78	Jones & Jelassi (1990)	0.05	0.21	22	Larger entity	Information available	No	Yes	Yes
79		-1.13	0.25	20	Larger entity	Information available	No	Yes	Yes
80		-0.39	0.14	30	Larger entity	Information available	No	Yes	Yes
81		0.23	0.13	30	Larger entity	Information available	No	Yes	Yes
82	King & Hinson (1994)	0.41	0.03	124	Larger entity	No information	No	No	No

(Appendix continues)

## Appendix (continued)

No.	Study				Moderators				Integrative potential
		Hedges' <i>g</i>	Variance	<i>n</i>	Advocacy	Structural ambiguity	Experience	Self-initiation	
83	Korobkin & Doherty (2009)	0.85	0.08	55	Individual	No information	No	Yes	No
84	Kray (2012)	0.40	0.05	109	Larger entity	No information	Yes	Yes	No
85	Kray et al. (2002)	0.69	0.06	64	Larger entity	No information	Yes	Yes	No
86		-0.46	0.07	58	Larger entity	No information	Yes	Yes	No
87	Kray et al. (2012)	0.13	0.07	54	Self	Information available	No	Yes	Yes
88	Kray et al. (2004)	-1.40	0.37	12	Self	Information available	No	No	Yes
89		-0.37	0.33	10	Self	Information available	No	No	Yes
90		2.14	0.33	18	Self	Information available	No	No	Yes
91		0.71	0.35	10	Self	Information available	No	No	Yes
92		-1.77	0.29	18	Larger entity	Information available	Yes	No	Yes
93		-2.07	0.32	18	Larger entity	Information available	Yes	No	Yes
94		1.21	0.40	10	Larger entity	Information available	Yes	No	Yes
95		1.71	0.31	16	Larger entity	Information available	Yes	No	Yes
96	Kray et al. (2001)	-0.85	0.22	18	Larger entity	No information	Yes	Yes	No
97		0.76	0.22	18	Larger entity	No information	Yes	Yes	No
98		1.11	0.24	18	Larger entity	No information	Yes	Yes	No
99		-0.26	0.20	18	Larger entity	No information	Yes	Yes	No
100	Ma (2007)	0.32	0.02	226	Larger entity	Information available	Yes	Yes	Yes
101		0.12	0.02	200	Larger entity	Information available	Yes	Yes	Yes
102	Margolis (1991)	-0.17	0.03	127	Larger entity	Information available	Yes	Yes	Yes
103		0.19	0.03	124	Larger entity	Information available	Yes	Yes	Yes
104	Miles (2010)	0.14	0.04	110	Larger entity	No information	Yes	Yes	No
105	Miles & LaSalle (2008)	0.04	0.02	218	Self	Information available	Yes	Yes	Yes
106		0.15	0.01	470	Self	Information available	Yes	No	Yes
107	Miles & LaSalle (2009)	0.49	0.03	136	Self	Information available	Yes	Yes	Yes
108		0.17	0.00	1,554	Self	Information available	Yes	No	Yes
109	Miles & Maurer (2012)	0.02	0.02	192	Self	Information available	Yes	Yes	Yes
110	Nadler & Nadler (1987)	0.25	0.05	87	Self	No information	No	No	No
111	Neu et al. (1988)	0.12	0.05	104	Larger entity	Information available	Yes	Yes	Yes
112		0.53	0.07	58	Larger entity	Information available	Yes	Yes	Yes
113	O'Connor et al. (2005)	-0.22	0.02	222	Larger entity	Information available	Yes	No	Yes
114	Pollmann (2012)	0.09	0.05	120	Self	Information available	No	Yes	Yes
115	Renard (1992)	-0.01	0.04	108	Self	Information available	Yes	Yes	Yes
116	Solomon-Ravich (1985)	0.12	0.01	320	Self	Information available	Yes	Yes	Yes
117	Stevens et al. (1993)	0.40	0.07	60	Self	No information	Yes	Yes	No
118	Swaab & Swaab (2009)	-0.87	0.07	60	Larger entity	Information available	No	Yes	Yes
119		0.85	0.07	60	Larger entity	Information available	No	Yes	Yes
120	Walter (1996)	0.10	0.03	144	Larger entity	No information	Yes	Yes	No
121	Wiltermuth & Neale (2011)	0.20	0.03	124	Larger entity	Information available	No	Yes	Yes
122	Zerres et al. (2013)	0.39	0.02	200	Larger entity	Information available	Yes	No	Yes
123	Zhang & Han (2007)	0.35	0.03	150	Larger entity	Information available	Yes	No	Yes

*Note.* Advocacy: Self = participants negotiated for themselves; Larger entity = participants negotiated on behalf of a larger entity; Individual = participants negotiated on behalf of a single individual; Structural ambiguity: No information = negotiators not provided information about the bargaining range; Information available = negotiators provided information about the bargaining range; Experience: No = no prior experience; Yes = some experience; Integrative Potential: No = distributive negotiations; Yes = negotiations with integrative potential; Self-initiation: No = participation was compulsory; Yes = participation was self-initiated.

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