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"Let´s Talk About Condoms": The Association Between Culture and Condom Negotiation Strategies

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Master in Psychology of Intercultural Relations

Supervisor:

Dr. David L. Rodrigues, Assistant Researcher,  
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October, 2022





CIÊNCIAS SOCIAIS  
E HUMANAS

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Department of Social and Organizational Psychology

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*I dedicate this work in loving memory of  
my aunt Dominique Hardeel.*



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## Resumo

Investigação anterior sugere que pessoas de culturas com baixo contexto de comunicação são mais propensas ao uso estratégias de negociação direta do preservativo (por exemplo, pedir diretamente), enquanto pessoas de culturas com alto contexto de comunicação são mais propensas ao uso estratégias de negociação indireta do preservativo (por exemplo, usar a sedução). Analisámos a associação entre a cultura de comunicação e a utilização de diferentes estratégias de negociação de preservativos em dois contextos culturais distintos - Alemanha e Índia. Analisámos também se esta associação é explicada pela autoimagem (ou seja, como os indivíduos se definem a si próprios em relação aos outros), considerando que a autoimagem tem estado relacionada com o uso de estilos específicos de comunicação e negociação. Para testar estas hipóteses, conduzimos um estudo correlacional com 230 participantes ( $M_{idade} = 25.81$ ,  $SD = 5.51$ ). Desenvolvemos a Expanded Condom Negotiation Scale (ECNS), uma escala que diferencia as estratégias de negociação do preservativo em termos de orientação (evitar vs. promover preservativo) e de direção (direto vs. indireto). Os resultados mostraram que participantes da Índia utilizam mais estratégias indiretas, enquanto participantes da Alemanha utilizam mais estratégias de negociação direta do preservativo. Um alto contexto de comunicação associou-se a *maior* utilização de estratégias diretas e indiretas para evitar preservativos, bem como a *maior* utilização de estratégias indiretas de promoção do preservativo e uma *menor* utilização de estratégias diretas de promoção do preservativo. Além disso, a associação entre alto contexto de comunicação e a maior utilização de estratégias indiretas de promoção do preservativo, foi explicada através de uma autoimagem interdependente. Em conclusão, este estudo ilustra a importância de examinar variáveis culturais a nível individual, para compreender a razão pelo qual as pessoas usam estratégias distintas na negociação de preservativos.

*Palavras-chave:* negociação de preservativos, alto/baixo contexto de comunicação, autoimagem, psicologia transcultural

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# Abstract

Former research suggests that individuals from low context communication cultures are more likely to use direct condom negotiation strategies (e.g., direct request), whereas individuals from high context communication cultures are more likely to use indirect condom negotiation strategies (e.g., seduction). We examined the association between context communication culture and the use of different condom negotiation strategies in two distinct cultural contexts – Germany and India. Moreover, we investigated if this association is explained by self-construal (i.e., how individuals define themselves in relation to others), considering that self-construal has been related to the use of specific communication and negotiation styles. To test these hypotheses, we conducted a cross-sectional study with 230 participants ( $M_{age} = 25.81$ ,  $SD = 5.51$ ). We developed and validated the Expanded Condom Negotiation Scale (ECNS), a scale to assess different condom negotiation strategies in terms of orientation (condom avoidant vs. condom promoting) and directness (direct vs. indirect). Results showed that participants from India reported using more indirect, whereas participants from Germany reported using more direct condom negotiation strategies. Higher (vs. lower) context communication was associated with *more* use of direct and indirect condom avoidant as well as *more* use of indirect condom promoting strategies and *less* use of direct condom promoting strategies. The association between higher (vs. lower) context communication with more use of indirect condom promoting strategies was explained by an interdependent self-construal. In conclusion, this study illustrates the importance of examining cultural variables on an individual level to understand why individuals use distinct condom negotiation strategies.

*Keywords:* condom negotiation, high context/low context communication, self-construal, cross-cultural psychology

*APA Classification Codes:* 2980 Sexual Behavior & Sexual Orientation, 3000 Social Psychology



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## CHAPTER 1

# Introduction

Despite global efforts, sexually transmitted infections (STIs) are still a major public health concern. According to the World Health Organization (WHO), in 2021 HIV has claimed 650,000 lives worldwide and approximately 1,500,000 individuals were newly infected with HIV (WHO, 2022). Recent reports have also shown increasing rates of other STIs, such as chlamydia, gonorrhea, and syphilis in many European countries (e.g., in Germany; Bremer et al., 2017; Jansen et al., 2016, 2020) and the United States (Scott-Sheldon & Chan, 2020). Likewise, a rising STI prevalence has been reported across Asia in recent years (e.g., in Thailand and Sri Lanka; Sharma et al., 2021).

Condom use is one of the most effective ways to avoid the transmission of STIs (Holmes et al., 2004; Pinkerton & Abramson, 1997). Yet, individuals often use condoms inconsistently and engage in riskier sexual practices (e.g., unprotected sexual intercourse with casual sexual partners; Fehr et al., 2015; Haversath, 2017). Especially among adolescents and young adults, rates of condom use have been decreasing in the past years (Kann et al., 2018; Koumans et al., 2020).

Despite the many efforts already made by implementing education programs and awareness campaigns across countries worldwide (e.g., Mahat & Scoloveno, 2018; Noar et al., 2009; Sood et al., 2006), the increasing STI rates and the decreasing condom use rates call for more research and more effective sexual health protection strategies. Among others, previous studies have examined the association between safer sexual communication and condom use behavior and have suggested the importance of condom negotiation to condom use (e.g., French & Holland, 2013; Li & Samp, 2019; Noar et al., 2002).

Individuals can use different negotiation strategies to persuade their sexual partner(s) to use condoms or to forgo condom use. Several individual-level factors that shape the condom negotiation process have already been identified (e.g., gender, individual characteristics, alcohol/drug use; Peasant et al., 2015; Rodrigues et al., 2022). Among these, ethnicity is particularly relevant, suggesting that individuals with distinct cultural backgrounds tend to use different condom negotiation strategies. For instance, individuals from high context communication cultures (e.g., Asian Americans) tend to endorse indirect strategies (e.g., seduction) more often to persuade their sexual partner to use a condom, whereas individuals from low context communication cultures (e.g., White Americans) engage more in direct strategies (e.g., direct request) during the condom negotiation process (Holland & French, 2012; Lam et al. 2004). However, it remains unclear what is the underlying psychological process explaining the relationship between communication culture and applied condom negotiation strategies.

Past research in cross-cultural psychology indicates that communication and the way individuals perceive themselves, i.e., their self-construal, are related (Cross et al. 2011; Gudykunst, 1997). Individuals with an independent self-construal tend to use verbal and direct communication styles towards clarity in conversational interactions, whereas those with an interdependent self-construal are more focused on indirect contextual cues and engage in non-verbal communication (Cross et al., 2011). Some studies have shown that differences in self-construal are also related to differences in communication about sexual behavior and safer sex (e.g., Lechuga & Wiebe, 2009; Tang et al., 2013). To the best of our knowledge, research is yet to determine whether self-construal is associated with the use of certain condom negotiation strategies. Therefore, the goal of our study was to investigate if self-construal could be an underlying explanation for the association between context communication and condom negotiation strategies.

To assess the use of different condom negotiation strategies, we first developed a new measure including condom promoting as well as condom avoiding strategies that can further be characterized as either direct or indirect. Psychometric properties of the new measure were examined. We then tested if our subsamples from Germany and India could be defined as low context and high context communication culture, respectively. Finally, we examined whether low context communication was associated with the use of more direct condom negotiation strategies and if high context communication was associated with the use of more indirect condom negotiation strategies and assessed if these associations could be explained by independent or interdependent self-construal, respectively.

## Theoretical Background

### 2.1 Condom Negotiation Strategies

Peasant and colleagues (2015) define condom negotiation as the “process of deciding to use or not use a male condom during sexual intercourse”, which “unlike broader sexual communication or assertiveness constructs [...] may involve nonverbal behavior, may not include communication about other sexual topics, and may not necessitate an assertive stance” (p. 471). This can entail a broad range of techniques.

The first comprehensive qualitative research on condom negotiation was conducted by De Bro and colleagues (1994), who identified six strategies commonly used by young adults to persuade a new sexual partner to either use or avoid using condoms: (1) emotional coercion (e.g., threatening negative affective consequences if sexual partner does not comply), (2) risk information (e.g., presenting information about the possible risks of STIs or unwanted pregnancy to gain compliance), (3) deception (e.g., using false information to gain compliance), (4) seduction (e.g., using sexual arousal to gain compliance), (5) reward (e.g., promising positive consequences to gain compliance), and (6) withholding sex (e.g., refusing sexual activity if sexual partner does not comply). The authors found that women are perceived to engage more in condom promotion (vs. condom avoidance) than men. Results showed that women reported using the withholding sex strategy (“no condom, no sex”) more frequently than any other strategy to persuade their sexual partner(s) to use a condom and rated this strategy higher on comfort and effectiveness. In contrast, men reported using seduction more often to promote and/or avoid condom use and rated this strategy as more comfortable and effective than any other strategies.

Noar and colleagues (2002) built upon this qualitative research and developed the first measure to assess different condom negotiation strategies used by heterosexual individuals. The Condom Influence Strategy Questionnaire (CISQ) includes not only strategies previously identified by De Bro and colleagues (1994), but also additional strategies that are used by individuals involved in long-term relationships, such as relationship conceptualizing (i.e., expressing caring or concern for the relationship when engaging in condom negotiation). More specifically, the CISQ entails the following six condom negotiation strategies: (1) withholding sex (e.g., “Tell my partner that I will not have sex with him/her if we do not use condoms.”), (2) direct request (e.g., “Ask that we use condoms during sex.”), (3) seduction (e.g., “Start “fooling around” and then pull out a condom when it was time.”), (4) relationship conceptualizing (e.g., “Tell my partner that since we love and trust one another, that we should use condoms.”), (5) risk information (e.g., “Tell my partner that if we don’t use condoms, then

one of us could end up with a sexually transmitted disease (STD).”), and (6) deception (e.g., “Make up a reason why I want him/her to use a condom, even though my real reason is to protect myself against diseases.”).

Revising the existent literature, Lam and colleagues (2004) argued that non-verbal and indirect strategies were widely overlooked by former researchers. To address this issue, the authors developed the Condom Negotiation Strategies Scale (CNS) that distinguished strategies according to verbalism and directness. As can be seen in Table 2.1, the authors differentiated four categories of strategies, namely (1) verbal-direct (e.g., discussion with sexual partner), (2) verbal-indirect (e.g., deception), (3) nonverbal-direct (e.g., putting a condom on oneself or the sexual partner) and (4) nonverbal-indirect (e.g., seduction).

**Table 2.1**

*Condom Negotiation Strategies*

<b>Strategy</b>	<b>Description</b>
<b>Verbal Direct</b>	
Threaten	Making a threat (e.g., “no condom, no sex”) to persuade sexual partner
Plead	Pleading (e.g., begging, complaining) to persuade sexual partner
Health Reason	Giving a health reason (e.g., pregnancy, STIs) to persuade sexual partner
<b>Verbal Indirect</b>	
Deceive	Using deception (e.g., giving pregnancy reason to use condoms when you are really concerned with STIs) to persuade sexual partner
Flatter	Using flattery (e.g., “we’ll need to use extra-large condoms”) to persuade sexual partner
Drop hints	Dropping hints (e.g., “I heard so-and-so got pregnant”) to persuade sexual partner
<b>Nonverbal Direct</b>	
Open Condom	Opening a condom in front of sexual partner
<b>Nonverbal Indirect</b>	
Place Condom	Placing a condom in view of sexual partner
Pamphlet	Placing a safer sex pamphlet in view of sexual partner

*Note.* Adapted from “What really works? An exploratory study of condom negotiation strategies,” by A. G. Lam, A. Mak, P. D. Lindsay, and S. T. Russell, 2004, *AIDS Education and Prevention*, 16(2), p. 164. <https://doi.org/10.1521/aeap.16.2.160.29396>. Copyright 2004 by The Guilford Press.

It should be noted that the CNS was developed based on the attribution of each strategy to one of the four categories by five undergraduate students, instead of using psychometric evidence to differentiate between strategies. Therefore, we saw the relevance of developing a new scale and examining whether a distinction of condom negotiation in terms of directness and verbalism is indeed psychometrically valid.

Another limitation of the scales developed by Noar and colleagues (2002), and Lam and colleagues (2004) is the focus on assessing only condom promoting strategies. Only a few researchers have instead focused their attention on the quantitative examination of strategies that individuals employ to avoid or resist condom use (e.g., Davis et al., 2016), of which most have solely taken heterosexual male participants into account. Strategies such as seduction or reward can be used to promote the use of condoms but can also be used to resist condom use (De Bro et al., 1994). Davis and colleagues (2014, 2016) identified additional strategies to avoid condom use such as risk information (e.g., reassuring the sexual partner of a low risk of STI transmission, possible pregnancy), emotional/relational coercion (e.g., "Using a condom means you don't trust me"), deception (e.g., lying about the intention to withdrawal before ejaculation), condom sabotage (e.g., taking the condom off or intentionally damaging it), and the threat of or actual physical force (e.g., physically holding down the sexual partner). Based on these tactics, Davis and colleagues (2014) developed the Condom Use Resistance Perpetration Survey (CURPS) to assess strategies used by heterosexual men to resist using a condom.

Peasant and colleagues (2015) emphasize that instead of solely focusing on either condom-promoting (e.g., Lam et al, 2004; Noar et al., 2002) or condom-avoidant strategies (e.g., Davis et al., 2014, 2016), measures examining condom negotiation should take both directions of negotiation into account. The authors propose a framework that distinguishes between *verbalism* and *directness* (see Lam et al., 2004) but also condom use *direction* (hereafter referred as condom use *orientation*) as an additional dimension. According to this conceptualization, the use of each strategy can be characterized on each of the three dimensions. For instance, emotionally coercive strategies can be expressed in a verbal, direct, and avoidant way (e.g., "Using a condom means you don't trust me"), or in a verbal, direct, and promoting way (e.g., "If you really care for me, we will use a condom"). This same strategy can also be used in a nonverbal and indirect way (e.g., becoming emotionally distant if sexual partner does not comply).

To our knowledge, there are no existing measures which assess use of strategies considering all three dimensions of condom negotiation. Therefore, we aimed to extend the literature by developing such a scale using exploratory factor analyses and determining its psychometric properties.

## **2.2 Culture and Variability in Condom Negotiation**

Individuals differ in their choice of condom negotiation strategies (Peasant et al., 2015). Research on the association between individuals' culture and condom negotiation is still limited. However, the existent findings suggest that individuals with different ethnicities (and different cultural backgrounds) use distinct strategies when trying to persuade sexual partner(s) to use a condom. In a multi-ethnic sample, Lam and colleagues (2004) found that generally direct condom negotiation strategies, either verbal or non-verbal, were the most frequently used. However, the choice of condom negotiation strategy varied across ethnicities. For instance, Asian American college students engaged significantly more in condom negotiation strategies that were verbal-indirect, (e.g., dropping hints) than White American college students.

Likewise, Holland and French (2012) found that Asian/Pacific Islander individuals used more often indirect strategies (e.g., seduction, relationship conceptualizing) when compared to White and African American individuals. Deception, another highly indirect condom negotiation strategy, was used significantly more often by African American individuals when compared to White American individuals, and more often by Asian/Pacific Islander individuals when compared to Latinx individuals.

Lam and colleagues (2004) proposed that differences in condom negotiation between ethnicities converge with culture-level differences in communication style. Taken together, individuals from low context communication cultures (i.e., individuals from cultures that stem from countries in northwestern Europe or societies of British descent such as the USA) seem to engage more frequently in direct strategies during the condom negotiation process. In contrast, individuals from high context communication cultures (i.e., individuals from cultures that stem from countries located in Asia) seem to endorse more indirect strategies during the condom negotiation process.

## **2.3 High Context and Low Context Communication Cultures**

Research on intercultural contact and communication suggests that individuals from different cultures can use distinct communication styles (Gudykunst, 1997). In his influential work "Beyond culture" (1976), Hall argues that context dependence in communication is one of many dimensions on which cultures can differ and distinguishes between high and low context communication cultures. Individuals from high context communication cultures use more indirect (nonverbal) and implicit ways to communicate (i.e., communication "between the lines"), whereas individuals from low context communication cultures use more explicit (verbal) and direct ways to transfer information (i.e., communication "to the point"; Condon, 2015; Van der Zee & Hofhuis, 2018). For instance, when it comes to negotiation in general (e.g., Adair, 2003) or in specific domains (e.g., condom negotiation, Lam et al. 2004), individuals from high context communication cultures use more indirect negotiation

strategies, while individuals from low context communication cultures use more direct negotiation strategies.

In interpersonal interactions, individuals from high context communication cultures rely on shared information or shared codes which facilitate their communication (Hall, 1976; Liu, 2016). Implicit information on how individuals should behave in certain situations (e.g., depending on setting or relationship) is commonly known and does not need to be expressed explicitly. Individuals in high context communication cultures make inferences from the context and (nonverbal) cues more often than individuals from low context communication cultures (Liu, 2016; Richardson & Smith, 2007). This is also apparent when it comes to communication about sexual behavior and safer sex (e.g., Jo-Yun & Rodriguez, 2015; Tang et al., 2013). For instance, Jo-Yun and Rodriguez (2015) found a frequent use of visual metaphors in commercial printed condom advertisements in high context communication cultures. To understand the underlying message, individuals had to interpret the subtle and suggestive meanings conveyed in the advertisements. In comparison, the promotion of condom use through advertisement was stated more explicitly in low context communication cultures.

Culture-level variables, such as a distinction of communication cultures, are often used in cross-cultural research to identify differences in behavior (e.g., Kitayama & Ishii, 2002). However, we propose that the examination of individual-level variables, which can highlight inter- as well as intra-cultural differences, might offer more valuable insights to explain a given phenomenon such as the cultural variability in used condom negotiation strategies (Kim et al., 2009).

Previous research has found that self-construal can be such an individual-level variable through which communication culture shapes behavior (Gudykunst, 1997). Indeed, self-construal was found to explain cultural differences in conflict management and negotiation strategies, such that independent self-construal is associated with direct and dominating conflict styles and interdependent self-construal is associated with avoiding and obliging conflict styles (Oetzel, 1998; Ting-Toomey et al., 2001). Hence, we expected that self-construal might also be related to the use of certain condom negotiation strategies and could explain a possible association between high context vs. low context communication and condom negotiation.

## **2.4 Self-Construal**

Apart from finding intercultural differences in communication, variations in how individuals from different cultures conceive themselves can also be found (e.g., Ma & Schoeneman, 1997). The concept of self-construal was first introduced by Markus and Kitayama (1991) and refers to how individuals define themselves and how they see themselves in relation to others. Individuals from cultures that stem from western countries (e.g., Germany, USA) typically express their identity in terms of internal

characteristics that distinguish them from others and that remain constant over situations and lifespan (independent self-construal; Heine, 2015). On the other hand, individuals from cultures that stem from eastern countries (e.g., India, Japan), generally do not perceive the individual as a “distinct entity” but rather as a member of a larger social group and define themselves in terms of roles and relationships with other members of their own ingroup (interdependent self-construal; Heine, 2015). Although within culture variability is also evident (Cross et al., 2011; Grossman & Varnum, 2011), research has shown that socialization in a certain culture enhances the development of either independent or interdependent self-construal.

For instance, Dhawan and colleagues (1995) conducted a study asking participants from India and the US to describe themselves by administering the “Twenty-Statements Test”, a commonly used measure of self-construal originally developed by Kuhn and McPartland (1954), which involves writing down 20 statements beginning with “I am...”. The results showed that US-Americans wrote more often personal characteristics (e.g., traits and abilities) and made self-evaluative statements whereas Indians focused on their social identities (e.g., roles and memberships). Koydemir and colleagues (2013) found similar patterns of cultural differences in a German and Indian sample when administering the Self-Construal Scale (SCS; Singelis, 1994), a 30-item scale measuring independent and interdependent self-construal on two distinct subscales. Results showed that Indian participants reported higher interdependent and lower independent self-construal, when compared to German participants.

Research has also identified associations between self-construal and behavior. For instance, self-construal has been related to certain communication processes (Cross et al., 2011), such that individuals with an independent self-construal tend to assert their opinions and show more self-expression (Markus & Kitayama, 1991), are more focused on clarity in verbal interactions (Kim et al., 1994), are less embarrassed in sensitive conversations (Singelis & Sharkey, 1995), and use more direct and verbal communication (Gudykunst, 1996; Hara & Kim, 2001). In contrast, individuals with an interdependent self-construal, show less argumentativeness (Aune et al., 2001), care more for others’ feelings when engaging in conversations (Kim et al., 1994) and use more frequently indirect and nonverbal communication (Gudykunst, 1996; Singelis & Brown, 1995).

Extending these findings to sexual behavior, Lechuga and Wiebe (2009) found that individuals with an interdependent self-construal show more embarrassment about condom negotiation and condom use, and report weaker condom use intentions. Building upon this, we argue that self-construal could also explain the use of distinct condom negotiation strategies, such that an independent self-construal might be related to the use of more direct condom negotiation strategies, whereas an interdependent self-construal might be related to the use of more indirect condom negotiation strategies.



## 2.5 The Present Study

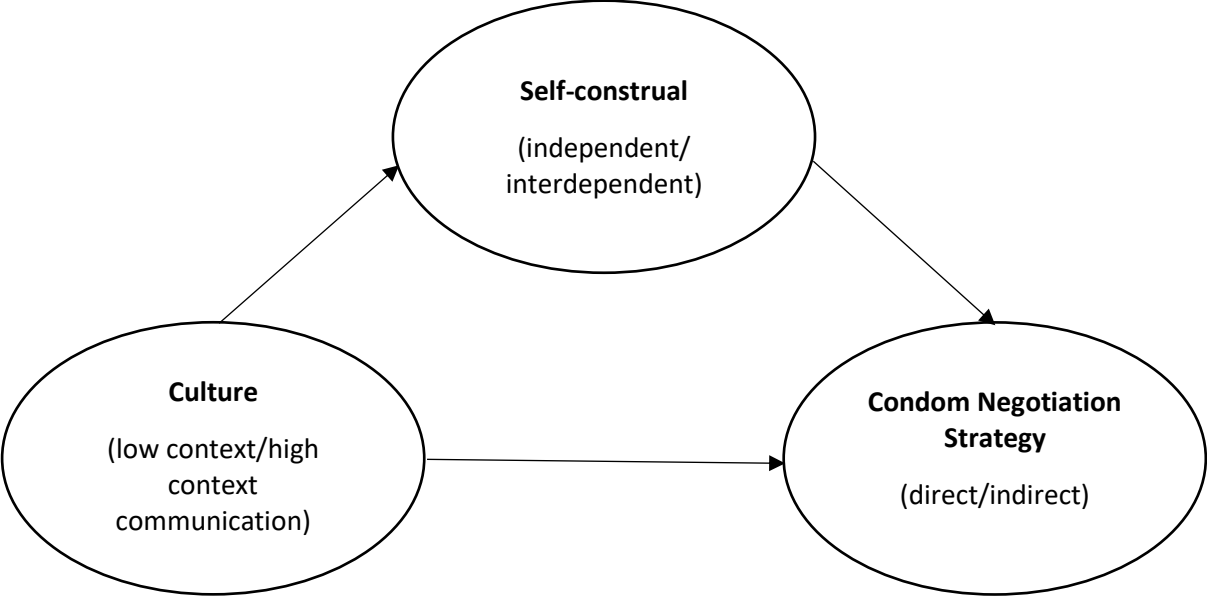
The aim of our study was to examine if high context and low context communication are associated with the use of different condom negotiation strategies and if self-construal mediates this association. Therefore, we conducted a cross-sectional study with individuals from Germany and India. Cross-cultural research has shown that German individuals tend to engage more in direct communication when compared to individuals from other nationalities (e.g., Japan; Djurssa, 1994; Lim & Urakami, 2018). In comparison, Kapoor and colleagues (2003) found that Indian individuals favor indirect communication and have more positive attitudes towards silence when compared to individuals from low context communication cultures (i.e., US-Americans). Based on these findings, some researchers have characterized both countries differently in terms of communication culture. Germany is often considered a low context communication culture (e.g., Adair, 2003; Djurssa, 1994; Rosenbloom & Larsen, 2003) and India is often considered a high context communication culture (e.g., Kapoor et al. 2003). However, some researchers argue that often no clear definition or empirical methods are used for such classifications and inconsistencies in country classifications can be found (Kim et al., 1998; Kittler et al. 2011). Instead, we adopted a psychometric approach to categorize both countries. Additionally, we expected participants from both countries to show differences in terms of self-construal, since Koydemir and colleagues (2013) previously found that Indian individuals scored significantly higher on interdependence (vs. independence) when compared to German individuals.

Our first goal was to develop a new scale assessing condom negotiation strategies that included condom promoting and condom avoidant strategies as well as strategies differing in terms of directness, and verbalism. To do so, we used items from the CNS (Lam et al., 2004) and the CURPS, (Davis et al., 2014). We selected the CNS because it includes negotiation strategies that were already characterized in terms of directness and verbalism in former research. As the CNS fails to include condom avoidant strategies, we decided to add items from the CURPS. Psychometric evidence was gathered for the newly developed scale.

Our second goal was to test a mediation model (see Fig. 2.1). Specifically, we expected individuals in the lower (vs. higher) context communication culture to report using more direct (vs. indirect) condom negotiation strategies (H1). We also expected the association between communication culture and condom negotiation to be mediated by self-construal. For individuals in the lower context communication culture, their use of direct condom negotiation strategies should be explained by an independent self-construal (H2a). For individuals in the higher context communication culture, their use of indirect condom negotiation strategies should be explained by an interdependent self-construal (H2b).

**Figure 2.1**

*Proposed Mediation Model*



## CHAPTER 3

# Method

### 3.1 Participants

A power analysis using G\*Power (Faul et al., 2007) indicated that we would need at least 377 participants to test a linear regression model with four predictor variables, considering a small effect size ( $f^2 = .05$ ) and 95% power. We increased this sample size by 10% to account for eligible participants who failed to pass the attention check items. Hence, our minimum sample size was 415 participants.

Four inclusion criteria were applied in this study. Participants had to be (1) over 18 years old, (2) already engaged in sexual activity, (3) currently single (not in a significant romantic relationship), or in a romantic relationship for less than six months, and (4) either German or Indian. We decided to not include individuals in long-term relationships into our study, since condom negotiation only plays a minor role in these relationships for various reasons (Rodrigues et al., 2019).

A total of 918 individuals accessed the survey, of which 427 individuals met the inclusion criteria. We excluded participants who failed to complete the study ( $n = 162$ ), who had missing data on at least one of the main variables under examination ( $n = 2$ ), who failed the attention checks ( $n = 31$ ), and who reported to only have paid little attention while completing the questionnaire ( $n = 2$ ). The final sample consisted of 230 participants from Germany ( $n = 179$ ) and India ( $n = 51$ ).

As can be seen in Table 3.1, participants were, on average, 26 years old ( $M = 25.81$ ,  $SD = 5.51$ ). Most self-identified as women (63.7%), were heterosexual (76.1%), had a university degree (67.4%), resided in urban areas (90.0%), were students (71.6%), reported to not have a religious affiliation (79.6%), and did not have a significant relationship (90.1%). Comparing both subsamples, results showed significant differences in age,  $p = .023$ , gender,  $p < .001$ , education,  $p = .010$ , residence,  $p = .007$ , professional status,  $p < .001$ , and religion,  $p < .001$ . More specifically Indian participants were significantly older, and the Indian subsample had a higher proportion of participants who were men, university graduates, living in urban areas, employed, and religious.

**Table 3.1**

*Demographic Information*

	Total	German	Indian	Country
	$N = 230$	$n = 179$	$n = 51$	comparisons
	(100%)	(77.8%)	(22.2%)	$\chi^2 (I)$
Gender				16.49*** (0.27)

	Total <i>N</i> = 230 (100%)	German <i>n</i> = 179 (77.8%)	Indian <i>n</i> = 51 (22.2%)	Country comparisons $\chi^2$ ( <i>V</i> )
Women	144 (63.7%)	124 <sub>a</sub> (70.1%)	20 <sub>b</sub> (40.8%)	
Men	79 (35.0%)	50 <sub>a</sub> (28.2%)	29 <sub>b</sub> (59.2%)	
Non-binary	3 (1.3%)	3 <sub>a</sub> (1.7%)	-	
Sexual Orientation				0.90 (0.02)
Heterosexual	175 (76.1%)	137 <sub>a</sub> (76.5%)	38 <sub>a</sub> (74.5%)	
Nonheterosexual	55 (23.9%)	42 <sub>a</sub> (23.5%)	13 <sub>a</sub> (25.5%)	
Education				6.68* (0.17)
No University Degree	75 (32.6%)	66 <sub>a</sub> (36.9%)	9 <sub>b</sub> (17.6%)	
University Degree	155 (67.4%)	113 <sub>a</sub> (63.1%)	42 <sub>b</sub> (82.4%)	
Residence				7.28** (0.18)
Rural areas	23 (10.0%)	23 <sub>a</sub> (12.8%)	-	
Urban areas	207 (90.0%)	156 <sub>a</sub> (87.2%)	51 <sub>a</sub> (100%)	
Professional status				
Student	166 (71.6%)	145 <sub>a</sub> (80.1%)	21 <sub>b</sub> (41.2%)	47.57*** (0.45)
Employed	55 (23.7%)	31 <sub>a</sub> (17.1%)	24 <sub>b</sub> (47.1%)	
Other	11 (4.7%)	5 <sub>a</sub> (2.8%)	6 <sub>a</sub> (11.8%)	
Religious				12.27*** (0.24)
Yes	42 (20.4%)	25 <sub>a</sub> (15.3%)	17 <sub>b</sub> (39.5%)	
No	164 (79.6%)	138 <sub>a</sub> (84.7%)	26 <sub>b</sub> (60.5%)	
Relationship Status				0.83 (0.06)
Without relationship	200 (90.1%)	156 <sub>a</sub> (89.1%)	44 <sub>a</sub> (93.6%)	
Relationship for < 6 months	22 (9.9%)	19 <sub>a</sub> (10.9%)	3 <sub>a</sub> (6.4%)	
	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>t</i> ( <i>d</i> )
Age (years)	25.81 (5.51)	25.10 (3.38)	28.27 (9.49)	-2.35* (.60)

*Note.* Values with different subscript letters (*a*, *b*) denote a subset of country categories whose column proportions do significantly differ from each other at the  $p = .050$  level with Bonferroni correction.

\*  $p \leq .05$ . \*\*  $p \leq .01$ . \*\*\*  $p \leq .001$ .

## 3.2 Measures

### 3.2.1 Demographic Questionnaire

General demographic data, including age, gender, sexual orientation, relationship status, nationality, area of residence, professional status, educational level, and religious affiliation was collected for each participant. All questions included the option “I prefer not to answer”.

### 3.2.2 Context Communication Scale

Former empirical research has often used two-dimensional scales to assess high context and low context communication (e.g., Gudykunst et al., 1996). However, since Hall (1976) originally defined context communication as a continuous construct, we decided to use a one-dimensional measure to assess this construct, which was developed by Richardson and Smith (2007). The scale contains 14 items (e.g., “Listeners should be able to understand what a speaker is trying to express, even when the speaker does not say everything, they intend to communicate”). Participants were asked to indicate their agreement with each item on a 5-point rating scale (1 = *Strongly disagree* to 5 = *Strongly agree*). Responses were averaged into a single score, with higher scores indicating a higher context communication.

We conducted a confirmatory factor analysis (CFA) using AMOS (Arbuckle, 2019). Taking into consideration the standards for model fit indexes recommended in the literature (Fan et al., 1999; Kline, 1998; MacCallum et al., 1996; Marsh & Hocevar, 1985; West et al., 2012), results initially showed an unsatisfactory fit for our total sample,  $\chi^2 (77) = 308.31$ , comparative fit index (CFI) = .64, Tucker-Lewis index (TLI) = .57, and root-mean-square-error of approximation (RMSEA) = .12 [.10, .13]. After revising modification indexes and drawing covariances between items, the model fit improved to acceptable levels,  $\chi^2 (63) = 113.88$ , CFI = .92, TLI = .89, RMSEA = .06 [.04, .08]. The scale presented an acceptable internal consistency ( $\alpha = .79$ ).

### 3.2.3 Self-Construal Scale (SCS)

To assess self-construal, we used the SCS developed and validated by Singelis (1994), containing 30 items that assess independent (15 items; e.g., “I like being unique and different from others in many ways”) and interdependent self-construal (15 items; e.g., “I feel that my relationships are more important than what I have achieved myself”). Participants were asked to indicate their agreement with each item on a 7-point rating scale (1 = *Strongly disagree* to 7 = *strongly agree*). Responses were mean averaged on each subscale, with higher scores indicating a predominant independent or interdependent self-construal.

A CFA using Mplus (v. 8.7., Muthén & Muthén, 2017) showed an inadequate fit to our sample,  $\chi^2$  (202) = 963.93, TLI = .46, CFI = .50, RMSEA = .08 [.07, .08] and drawing covariances did not change fit indexes,  $\chi^2$  (396) = 936.97, TLI = .47, CFI = .52, RMSEA = .08 [.07, .08]. We deleted five items (items 3, 6, 10, 19, 25) based on non-significant ratio-weights in the respective factors, all  $p > .059$ , which improved model fit slightly,  $\chi^2$  (270) = 474.84, TLI = .71, CFI = .74, RMSEA = .06 [.05, .07]. Albeit the poor fit indexes, we decided to proceed with the test of our theoretical model. Both subscales presented acceptable internal consistency with Cronbach's  $\alpha$  coefficients of .72 and .71 for the independent self-construal and interdependent self-construal subscales, respectively.

#### **3.2.4 Expanded Condom Negotiation Scale (ECNS)**

We developed a new scale to assess the use of direct and indirect condom avoidant and condom promoting negotiation strategies by combining the 19 items from the CNS (Lam et al., 2004) and the 35 items of the CURPS (Davis et al., 2014). Items that were only related to a specific gender or sex were deleted to increase inclusiveness (e.g., "Telling her that you could lose your erection while putting the condom on") and the remaining items were adjusted to gender neutral language. The final measure included 49 items (see Appendix A, Table A1). Participants were asked to indicate how often they use (1 = *Never used* to 7 = *Always used*) each condom negotiation strategy. Psychometric results are presented in the Results section.

### **3.3 Procedure**

The present study was approved by the Ethics Committee of Iscte-Instituto Universitário de Lisboa (#04/2022). The process of data collection took place between March and May 2022 in collaboration with the Lady Shri Ram College for Women – Delhi University (LSR – DU).

Data was collected using the Qualtrics software and the survey was made available in German and English (English being one of two official national languages in India). Prospective participants were recruited through social media posts (e.g., Facebook, Instagram, LinkedIn), messenger services (e.g., Telegram channels), online survey platforms (i.e., SurveyCircle, SurveySwap) and flyers distributed in relevant institutions (e.g., associations). No monetary compensation was offered upon survey completion. Before proceeding to the survey, participants were asked to read the informed consent, which included information about the duration of the study (20min), guaranteed the anonymity and confidentiality of the data, and informed participants that they could drop out of the study at any time. The aim of the study was described as "assessing information about (sexual) communication behavior, feelings and behaviors in different situations, sexual behavior and attitudes towards condom use." After giving their consent, participants were asked to provide demographic information, followed by

the main measures. Question sensitivity increased progressively during the survey, with items related to sexual behavior and condom use presented towards the end of the survey. In case of missing responses participants were requested to provide their answers but were allowed to proceed without doing so. Two attention checks were randomly presented in the survey (e.g., “Please select the response option “strongly disagree”. This is not a trick question.”). Also, two control questions were included at the end of the survey: “It is important for us that the data collected is reliable. How much attention did you pay to this questionnaire while you were completing it?” (4-point rating scale from 1 = *No attention* to 4 = *Very close attention*) and “Do you want to keep your responses for analysis?” (1 = *Yes* and 2 = *No, I want to withdraw my responses from the study*). No false information or deception was used. At the end of the study, participants were provided with a debriefing statement, which included a more detailed explanation of the purposes of the study. Details of informative websites and contacts of sexual health related institutions (i.e., helplines) were given in case that participants wished further information on sexual health (e.g., information on the possibilities to get tested for STIs). Moreover, contact details of the principal researcher were provided in case of further questions concerning the survey.

### **3.4 Data Analysis Plan**

To examine the underlying structure of the ECNS, an exploratory factor analysis (EFA) with principal axis factoring and promax rotation was conducted by using IBM SPSS Statistics (v. 28). To be retained, items had to have a factor loading equal or above .40 in only one of the extracted factors. Cronbach’s  $\alpha$  for each resulting factor was computed. Scale sensitivity was assessed by comparing group differences on relevant demographic variables. Overall correlations between measures were examined. Additionally, we examined country differences in all measures to determine whether country should be included as an additional moderator in our theoretical model.

To test our hypothesized model, we used the PROCESS macro (v. 4.1; see Hayes, 2017) and tested the indirect and direct effects using 5,000 bootstraps. Lastly, we repeated the mediation analyses entering the demographic variables that differed between the two subsamples (India vs. Germany) as covariates.

## Results

### 4.1 Psychometric Properties of the ECNS

We conducted a descriptive analysis of each item of the ECNS, including skewness and kurtosis (see Appendix A, Table A1). Additionally, we tested all items concerning their mean deviation from the scale midpoint (i.e., one-sample *t* tests, test value = 4). Most of the items (i.e., 45 items) scored significantly below the scale midpoint, whereas three items scored significantly above the scale midpoint. The mean of one item (item 4) did not differ significantly from the scale midpoint.

Results of the EFA (and the resulting scree plot) showed four factors, which accounted for 37.75% of the variance ( $KMO = .82$ ). A total of 14 items were deleted for having factor loadings below .40 ( $n = 12$ ) or factor loadings above .40 on more than one factor ( $n = 2$ ). A new EFA with the remaining 35 items showed a four-factor structure accounting for 42.83% of the variance ( $KMO = .83$ ). Two additional items had to be discarded in this analysis for having factor loadings below .40. A third EFA showed again a four-factor structure accounting for 43.78% of the variance ( $KMO = .83$ ). Based on face validity and taking into account former theoretical considerations (e.g., Lam et al., 2004; Holland & French, 2012) we discarded item 20 (“Getting your partner really aroused and then starting to have sex without a condom, i.e. “slipping it in” without a condom on), item 38 (“Refusing to have sex with your partner if you had to use a condom”), and item 48 (“Threatening to hurt your partner if they would not have sex without a condom”) for not loading on the expected factors.

The final ECNS included 30 items, accounting for 43.54% of the variance ( $KMO = .82$ ). As shown in Table 4.1, the first factor included nine items with high factor loadings ( $\geq .49$ ) assessing direct condom avoidance ( $\alpha = .86$ ), the second factor included seven items with high factor loadings ( $\geq .51$ ) assessing indirect condom avoidance ( $\alpha = .87$ ), the third factor included six items with high factor loadings ( $\geq .47$ ) assessing indirect condom promotion ( $\alpha = .79$ ), and the fourth factor included eight items with high factor loadings ( $\geq .41$ ) assessing direct condom promotion ( $\alpha = .75$ ).

Descriptive analysis of the subscale scores including means as well as skewness and kurtosis were conducted and showed a predominant use of direct condom promoting strategies ( $M = 3.27$ ,  $SD = 1.26$ ,  $min = 1$ ,  $max = 6.63$ ,  $S/SE = 0.20$ ,  $K/SE = -0.92$ ), followed by the use of indirect condom promoting strategies ( $M = 1.62$ ,  $SD = 0.99$ ,  $min = 1$ ,  $max = 7$ ,  $S/SE = 15.77$ ,  $K/SE = 23.53$ ), direct condom avoidant strategies ( $M = 1.36$ ,  $SD = 0.69$ ,  $min = 1$ ,  $max = 4.78$ ,  $S/SE = 16.44$ ,  $K/SE = 22.96$ ) and indirect condom avoidant strategies ( $M = 1.11$ ,  $SD = 0.42$ ,  $min = 1$ ,  $max = 5.00$ ,  $S/SE = 37.36$ ,  $K/SE = 134.74$ ). Correlation analysis showed that direct condom avoidance was positively correlated with indirect condom avoidance,  $r(229) = .54$ ,  $p < .001$ , and direct condom promotion was positively correlated with indirect



condom promotion,  $r(230) = .33, p < .001$ . Moreover, indirect condom promotion correlated positively with direct condom avoidance,  $r(230) = .24, p < .001$ , as well as with indirect condom avoidance,  $r(229) = .41, p < .001$ .

**Table 4.1**

*Exploratory Factor Analysis of the Expanded Condom Negotiation Scale (ECNS)*

	Factor				Corrected Item-Total Correlations
	Direct Condom Avoidance	Indirect Condom Avoidance	Indirect Condom Promotion	Direct Condom Promotion	
1. Telling your partner you didn't want to use a condom because sex doesn't feel as good with one on	<b>.90</b>	-.16	.04	-.09	.75
2. Telling your partner that you can't feel anything when you wear a condom, so you don't want to use one	<b>.80</b>	-.06	-.07	-.01	.68
3. Telling your partner you didn't want to use a condom because they are uncomfortable	<b>.63</b>	.11	-.08	.01	.61
4. Being clear that you would like to not use a condom	<b>.62</b>	-.12	-.03	.01	.53
5. Telling your partner that you would have difficulty staying physically aroused if you had to use a condom	<b>.59</b>	.05	-.08	.11	.55
6. Telling your partner your partner how happy you would be if you had sex without a condom	<b>.58</b>	-.12	.19	.04	.52
7. Telling your partner that you didn't need to use a condom this time since you didn't use one with them last time	<b>.58</b>	-.07	-.09	.09	.55

	Factor				Corrected Item-Total Correlations
	Direct Condom Avoidance	Indirect Condom Avoidance	Indirect Condom Promotion	Direct Condom Promotion	
8. Telling your partner that you could just use Plan B (“morning after pill”)	<b>.54</b>	.14	.09	-.04	.58
9. Asking your partner to not use a condom during sex	<b>.49</b>	.11	.08	-.04	.53
10. Agreeing to use a condom, but intentionally breaking the condom after it was on	-.09	<b>.92</b>	.00	-.00	.78
11. Agreeing to use a condom, but intentionally breaking the condom when putting it on	-.05	<b>.87</b>	-.11	.01	.70
12. Telling your partner that they was special so that they would have sex without a condom	.16	<b>.67</b>	.02	-.04	.70
13. Pretending that you have a latex allergy and cannot use condoms	.00	<b>.64</b>	.03	.12	.62
14. Promising to have a relationship with your partner so they would have sex without a condom	-.01	<b>.59</b>	.15	-.02	.62
15. Preventing your partner from getting a condom by staying on top	.36	<b>.53</b>	-.01	-.04	.66
16. Pretending that you had been tested and did not have any STI’s	.02	<b>.51</b>	.09	.00	.55
17. Offering a trade-off to your partner so that they would agree to have sex with a condom (e.g., “Do this for me, I’ll do something for you”)	-.10	-.00	<b>.84</b>	-.01	.71
18. Flattering your partner so that they would agree to have sex with a	-.02	-.01	<b>.77</b>	-.06	.66

	Factor				
	Direct Condom Avoidance	Indirect Condom Avoidance	Indirect Condom Promotion	Direct Condom Promotion	Corrected Item-Total Correlations
condom (e.g., “We will need to use extra-large condoms”)					
19. Giving relationship reason so that your partner would agree to have sex with a condom (e.g., it will enhance our relationship)	.02	.08	<b>.67</b>	-.04	.56
20. Misleading your partner so that they would agree to have sex with a condom (e.g., tell partner you want to use condoms because you don’t want to get pregnant, when you really are afraid of getting STIs)	.09	-.10	<b>.51</b>	.25	.51
21. Seducing your partner so that they would agree to have sex with a condom (e.g., increase your partner’s sexual arousal so that they forget that you’re using a condom)	.01	.02	<b>.49</b>	.13	.51
22. Leaving a safer sex article or pamphlet in view of your partner	.02	.19	<b>.47</b>	-.15	.37
23. Verbally expressing negative feelings towards your partner so that they agreed to have sex with a condom (e.g., object or complain)	.15	-.08	-.08	<b>.72</b>	.54
24. Verbally threaten your partner so that they agreed to have sex with a condom (e.g., “no condom, no sex”)	-.08	.11	-.05	<b>.61</b>	.50
25. Physically withdrawing (moving away) from your partner if they doesn’t want to use a condom	-.01	.15	-.12	<b>.61</b>	.47

	Factor				Corrected Item-Total Correlations
	Direct Condom Avoidance	Indirect Condom Avoidance	Indirect Condom Promotion	Direct Condom Promotion	
	26. Displaying negative emotions so that your partner would agree to have sex with a condom (e.g., crying, looking angry, looking dissatisfied)	-.01	.14	.22	
27. Giving pregnancy reason so that your partner would agree to have sex with a condom	.13	-.10	.08	<b>.48</b>	.44
28. Discussing with your partner so that they would agree to have sex with a condom (e.g., you and your partner openly discuss condom use together)	-.13	-.05	.04	<b>.43</b>	.43
29. Giving STI reason so you're your partner would agree to have sex with a condom	-.02	.06	-.00	<b>.41</b>	.38
30. Directly telling your partner that you want to use condoms	-.07	-.18	.04	<b>.41</b>	.38
Eigenvalue	7.44	3.86	2.13	1.74	-
Cronbach's alpha	.86	.87	.79	.75	-

#### 4.1.1 Orientation Index and Directness Index

Based on the underlying structure of the ECNS and for subsequent analyses, we computed two indexes assessing the *orientation* and *directness* of the used condom negotiation strategies (see Appendix B for detailed scoring and calculation instructions). Concerning the orientation index, we subtracted condom avoidant scores from condom promoting scores. Positive values in this index indicate a predominance of condom promotion, while negative values indicate a predominance of condom avoidance. Zero scores indicate ambivalence concerning orientation of condom negotiation. The orientation index was positively associated with the direct condom promotion subscale,  $r(230) = .85$ ,  $p < .001$ , as well as with the indirect condom promotion subscale,  $r(230) = .48$ ,  $p < .001$ . Additionally, it was negatively associated with the direct condom avoidance subscale,  $r(230) = -.41$ ,  $p < .001$  and the indirect condom avoidance subscale,  $r(229) = -.17$ ,  $p = .011$ . This index was statistically different

from zero ( $M = 1.31$ ,  $SD = 1.01$ ; min. = -2.21, max. = 4.86),  $t(229) = 19.72$ ,  $p < .001$ , thus indicating that participants were not distributed equally across the condom promotion and condom avoidance subscales.

Regarding the directness index, we subtracted indirect scores from direct scores. Positive values in this index indicate a more frequent use of direct condom negotiation strategies, while negative values in this index indicate a more frequent use of indirect condom negotiation strategies. Zero scores indicate similar frequent use of direct and indirect condom negotiation strategies. This index was positively associated with the direct condom promotion subscale,  $r(230) = .62$ ,  $p < .001$ , as well as with the direct condom avoidance subscale,  $r(230) = .17$ ,  $p = .012$ . Additionally, it was negatively associated with the indirect condom promotion subscale,  $r(230) = -.40$ ,  $p > .001$ , and the indirect condom avoidance subscale,  $r(229) = -.25$ ,  $p < .001$ . The directness index was statistically different from zero ( $M = 0.92$ ,  $SD = 0.67$ ; min = -1.77, max = 2.55),  $t(229) = 20.85$ ,  $p < .001$ , thus indicating that participants were not distributed equally across the direct and indirect condom negotiation subscales.

#### 4.1.2 Scale Sensitivity

To test scale sensitivity, we examined differences concerning demographic variables on all four subscales and both indexes. No significant differences according to sexual orientation, education, professional status, religiosity, and relationship status were found, all  $p > .081$ . Moreover, results showed no significant association between age and the different subscales and indexes, all  $p > .092$ . However, we found a significant difference according to residence, such that participants living in rural areas showed a more frequent use of indirect condom promotion strategies ( $M = 2.10$ ,  $SD = 1.21$ ) than participants living in urban areas ( $M = 1.57$ ,  $SD = 0.95$ ),  $t(228) = -2.50$ ,  $p = .013$ ,  $d = 0.55$ .

Additionally, results showed significant differences according to gender, such that men scored significantly higher on direct condom avoidance ( $M = 1.54$ ,  $SD = 0.85$ ) than women ( $M = 1.27$ ,  $SD = 0.57$ ),  $t(116.642) = -2.54$ ,  $p = .013$ ,  $d = 0.40$ . On the other hand, women scored significantly higher on direct condom promotion ( $M = 3.52$ ,  $SD = 1.33$ ) than men ( $M = 2.83$ ,  $SD = 1.01$ ),  $t(198.838) = 4.33$ ,  $p < .001$ ,  $d = .56$ . Moreover, women scored significantly higher on the orientation index ( $M = 1.49$ ,  $SD = 1.02$ ) than men ( $M = 0.99$ ,  $SD = 0.90$ ),  $t(221) = 3.66$ ,  $p < .001$ ,  $d = 0.51$ , as well as on the directness index ( $M = 1.04$ ,  $SD = 0.62$  vs.  $M = 0.68$ ,  $SD = 0.72$ ),  $t(221) = 3.93$ ,  $p < .001$ ,  $d = 0.55$ . There were no significant differences concerning indirect condom avoidance between women and men ( $M = 1.07$ ,  $SD = 0.31$  vs.  $M = 1.20$ ,  $SD = 0.58$ ),  $t(102.339) = -1.80$ ,  $p = .074$ ,  $d = 0.30$ , or indirect condom promotion ( $M = 1.55$ ,  $SD = 0.85$  vs.  $M = 1.78$ ,  $SD = 1.21$ ),  $t(121.125) = -1.53$ ,  $p = .128$ ,  $d = 0.24$ .

## 4.2 Overall Statistics and Country Comparisons

We determined outliers by applying the criterion of 2.5 SDs below or above the mean regarding the context communication scale as well as the SCS. Only a small percentage of outliers (3.45%) was found, therefore, no cases were excluded from the analyses. Descriptive analysis of the Context Communication Scale and the SCS as well as overall correlations with the other measures are shown in Table 4.2.

**Table 4.2**

*Descriptive Statistics and Overall Correlations of Main Variables*

	Correlations									
	<i>M (SD)</i>	1	2	3	4	5	6	7	8	
1. Direct condom avoidance	1.36 (0.69)	-								
2. Indirect condom avoidance	1.11 (0.42)	.54***	-							
3. Direct condom promotion	3.27 (1.26)	-.04	.08	-						
4. Indirect condom promotion	1.62 (0.99)	.24***	.41***	.33***	-					
5. Orientation Index	1.31 (1.01)	-.41***	-.17*	.85***	.48***	-				
6. Directness Index	0.92 (0.67)	.17*	-.25***	.62***	-.40***	.26***	-			
7. Context Communication	2.81 (0.50)	.15*	.17**	-.13*	.11	-.14*	-.17*	-		
8. Independent Self-construal	4.73 (0.69)	.09	.10	-.01	-.11	-.01	-.06	.06	-	
9. Interdependent Self-construal	4.25 (0.71)	.01	.06	-.03	.23***	.07	-.19**	.28***	-.08	

*Note.* Higher scores on the orientation index indicate a more frequent use of condom promoting negotiation strategies. Higher scores on the directness index indicate a more frequent use of direct condom negotiation strategies. Higher scores on the Context Communication Scale indicate a predominance of high context communication.

\*  $p \leq .050$ . \*\*  $p \leq .01$ . \*\*\*  $p \leq .001$ .

Overall, results showed significant correlations in the expected directions. For instance, context communication was negatively correlated with the directness index,  $p = .012$ . Moreover, interdependent self-construal was negatively correlated with the directness index,  $p = .004$ , while positively correlated with a predominant use of indirect condom promotion strategies,  $p < .001$ , and a predominance of high context communication,  $p < .001$ . Additionally, we examined correlations between all main variables and age. No significant correlations emerged, all  $p > .070$ .

No significant differences in context communication and self-construal variables were found according to sexual orientation, education, residence, professional status, and religion all  $p > .076$ . Men, however, showed significantly higher independence scores ( $M = 4.87$ ,  $SD = 0.70$ ) than women ( $M = 4.65$ ,  $SD = 0.68$ ),  $t(221) = -2.30$ ,  $p = .023$ ,  $d = 0.32$ . No other differences according to gender reached significance,  $p > .391$ . Likewise, no significant difference in context communication emerged between participants from India ( $M = 2.88$ ,  $SD = 0.51$ ) and participants from Germany ( $M = 2.80$ ,  $SD = 0.50$ ),  $t(228) = -1.07$ ,  $p = .286$ ,  $d = 0.17$ . However, Indian participants scored significantly higher on independent self-construal ( $M = 5.12$ ,  $SD = 0.78$ ) when compared to German participants ( $M = 4.62$ ,  $SD = 0.62$ ),  $t(69.219) = -4.22$ ,  $p < .001$ ,  $d = 0.76$ . Concerning interdependent self-construal no significant difference emerged between participants from India ( $M = 4.41$ ,  $SD = 0.81$ ) and Germany ( $M = 4.20$ ,  $SD = 0.67$ ),  $t(228) = -1.87$ ,  $p = .063$ ,  $d = 0.30$ .

We further examined whether participants from India and Germany would differ regarding their use of different condom negotiation strategies. German participants scored significantly higher on direct condom promotion ( $M = 3.39$ ,  $SD = 1.25$ ) when compared to Indian participants ( $M = 2.86$ ,  $SD = 1.22$ ),  $t(228) = 2.67$ ,  $p = .008$ ,  $d = 0.42$ . Moreover, German participants scored higher on the directness index ( $M = 1.00$ ,  $SD = 0.62$ ) than Indian participants ( $M = 0.63$ ,  $SD = 0.76$ ),  $t(228) = 3.60$ ,  $p < .001$ ,  $d = 0.57$ . No significant differences concerning direct condom avoidance, indirect condom avoidance, indirect condom promotion and the orientation index according to country were found, all  $p > .106$ .

### 4.3 Mediation Model

Based on our previous findings showing no country differences in communication culture, we used individual context communication scores as our predictor variable ( $X$ ) and discarded country as a potential moderator variable. Mediator variables were independent self-construal ( $M1$ ) and interdependent self-construal ( $M2$ ). Outcome variables were direct condom avoidance ( $Y$ , Model A), indirect condom avoidance ( $Y$ , Model B), direct condom promotion ( $Y$ , Model C), indirect condom promotion ( $Y$ , Model D), orientation index ( $Y$ , Model E) and directness index ( $Y$ , Model F). Results are shown in Table 4.3.

Context communication was unrelated to independent self-construal,  $p = .357$ . In contrast, participants with higher context communication scored higher on interdependent self-construal,  $p < .001$ . In turn, higher interdependent self-construal was associated with the use of more indirect condom promoting strategies,  $p = .001$  (Model D, indirect effect: 95% CI [0.03; 0.27]). In other words, the use of more indirect condom promoting strategies by individuals with higher context communication was explained by their interdependent self-construal. Higher interdependent self-construal was also negatively associated with directness,  $p = .016$  (Model F, indirect effect: 95% CI [-0.14; 0.00]). However, the indirect effect was non-significant. Lastly, direct effects further showed that participants with a predominance for high context communication reported a more frequent use of direct condom avoidant strategies,  $p = .023$  (Model A) and indirect condom avoidant strategies,  $p = .018$  (Model B), and a less frequent use of direct condom promoting strategies,  $p = .05$  (Model C). These participants also reported using more condom avoidant negotiation strategies,  $p = .014$  (Model E). All other associations were non-significant, all  $p \geq .091$ .



**Table 4.3***Mediation Analyses*

			<i>Model A</i>	<i>Model B</i>	<i>Model C</i>	<i>Model D</i>	<i>Model E</i>	<i>Model F</i>
	M1	M2	Direct Condom Avoidance	Indirect Condom Avoidance	Direct Condom Promotion	Indirect Condom Promotion	Orientation Index	Directness Index
<i>Predictors</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>
Context	0.08 (.09)	0.40 (.09)***	0.22 (.10)*	0.14 (.06)*	-0.34 (.17)*	0.08 (.13)	-0.34 (.14)*	-0.15 (.09)
Independent Self- construal (M1)			0.08 (.07)	0.05 (.04)	0.01 (.12)	0.18 (.09)	0.01 (.10)	-0.06 (.06)
Interdependent Self- construal (M2)			-0.03 (.07)	0.01 (.04)	0.02 (.12)	0.32 (.09)***	0.17 (.10)	-0.15 (.06)*
<i>Indirect effects</i>			<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>
Independent Self- construal			0.01 (.01) [- 0.01; 0.03]	0.00 (.01) [- 0.01; 0.02]	0.00 (.02) [- 0.04; 0.04]	0.02 (.02) [-0.02; 0.07]	0.00 (.01) [- 0.03; 0.03]	-0.01 (.01) [- 0.04; 0.01]
Interdependent Self- construal			-0.01 (0.03) [- 0.07; 0.04]	0.00 (.01) [- 0.02; 0.03]	0.01 (.06) [- 0.10; 0.14]	0.13 (.06) [0.03; 0.27]	0.07 (.05) [- 0.02; 0.19]	-0.06 (.04) [- 0.14; 0.00]
<i>Total effects</i>			<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>
Context Communication			0.21 (.09) [0.03; 0.39]	0.15 (.06) [0.04; 0.25]	-0.33 (.17) [- 0.66; -0.01]	0.22 (.13) [-0.03; 0.48]	-0.27 (.13) [- 0.53; -0.01]	-0.22 (.09) [- 0.39; -0.05]

\* $p \leq .050$ . \*\* $p \leq .010$ . \*\*\* $p \leq .001$ .

#### **4.4 Additional Analysis**

Including gender, education, residence, professional status, and religion as covariates did change the association between context communication and direct condom avoidance,  $p = .074$  (Model A), the association between context communication and direct condom promotion,  $p = .056$  (Model C) and the association between interdependent self-construal and directness,  $p = .062$  (Model F). All other results remained significant after controlling for covariates (see Appendix A, Table A2),  $p < .029$ .

## Discussion

Prior work has investigated the influence of different individual factors, such as gender, relationship status and partner characteristics, on condom negotiation (e.g., Peasant et al., 2015). However, research on the association between individuals' culture and used condom negotiation strategies is scarce. Considering a communication-oriented perspective on culture, we examined the use of different condom negotiation strategies in two distinct cultural contexts, India and Germany, and aimed to better understand why individuals from different cultures might use distinct condom negotiation strategies.

Former research has mostly been focused on the examination of strategies that individuals use to promote condom use, and still little is known about techniques that individuals employ to resist condom use (Peasant et al., 2015, Davis et al., 2014). Given the lack of psychometrically sound measures that incorporate condom promoting *and* condom avoidant negotiation strategies, we developed and validated a new measure – the ECNS – taking both orientations of condom negotiation into account as well as techniques that differ in terms of directness (direct vs. indirect; Lam et al., 2004). The development of the ECNS was based on items that we adapted from two former measures assessing condom negotiation, namely the CNS (Lam et al., 2004) and the CURPS (Davis et al., 2014). We found four subscales assessing direct condom avoidant strategies (i.e., strategies, that are explicit in their request to not use a condom), indirect condom avoidant strategies (i.e., strategies that are subtle in their request to not use a condom), direct condom promoting strategies (i.e., strategies that are explicit in their request to use a condom), and indirect condom promoting strategies (i.e., strategies that are subtle in their request to use a condom). The items derived from the CNS, which were previously rated in terms of directness by undergraduate students in a study conducted by Lam and colleagues (2004), did load on the respective factors in our study, providing psychometrical evidence for their former classification. Taking these results together, we concluded that condom negotiation strategies can be distinguished on two distinct main dimensions, namely condom negotiation *orientation* (condom avoidant vs. condom promoting) and condom negotiation *directness* (direct vs. indirect). Therefore, we computed two indexes assessing these dimensions. This is in line with a theoretical conceptualization of condom negotiation proposed by Peasant and colleagues (2015), that is based on the same dimensions. A third dimension of condom negotiation proposed by Peasant and colleagues, namely a differentiation in terms of *verbalism* (verbal vs. non-verbal), was not empirically reflected in our extracted factors.

To the best of our knowledge, this was the first attempt to develop an empirically validated scale that examines condom negotiation building upon the conceptualization proposed by Peasant and colleagues (2015). Overall, the measure showed good psychometric properties. Cronbach's  $\alpha$  confirmed acceptable to good internal consistency of all subscales. Correlation analysis showed that direct condom avoidance was positively correlated with indirect condom avoidance, and that direct condom promotion was positively correlated with indirect condom promotion. Surprisingly, indirect condom promotion was also correlated positively with direct and indirect condom avoidance. Hence, some individuals seem to engage in condom promotion as well as condom avoidance. We propose that this finding might reflect the ambivalence in terms of condom use orientation, that previously has been described by individuals in numerous qualitative studies (e.g., Bowleg et al., 2004; Mash et al., 2010; Pulerwitz & Dworkin, 2006; Williams & Semanchuk, 1999). For instance, Bowleg and colleagues (2004) found in a qualitative study with African American women, that although some participants showed high concerns about acquiring STIs, they had weak condom use intentions. Ambivalence in terms of condom use can be related to individual characteristics, motivations, alcohol use, situational context, and general dislike of condoms (Bowleg et al., 2004; Rodrigues et al., 2022; Williams & Semanchuk, 1999). Individuals who have mixed feelings about whether wanting to request the use of a condom, might rather endorse indirect (condom promoting) strategies (vs. direct strategies), since these were found to be less assertive (Noar et al., 2002) reflecting contradictory attitudes.

In general, our results revealed a predominant use of direct condom promoting strategies, followed by using indirect condom promoting strategies, direct condom avoidant strategies and indirect condom avoidant strategies. Concerning the directness dimension, these results confirm former research, showing that regardless of individual factors such as ethnicity or gender, direct strategies are favored over indirect strategies (e.g., Lam et al. 2004). In terms of orientation, we need to take into consideration that the results showing a predominance of condom promotion (vs. condom avoidance) might have been influenced by response biases, such as self-presentation and social desirability, hence that participants might have responded according to perceived social norms in terms of condom use (Catania et al., 1990; see also Limitations section).

We further examined differences in condom negotiation according to demographic variables and found significant differences concerning residence, gender, and country of origin. Our results revealed that individuals living in rural areas use more indirect condom promoting strategies than individuals living in urban areas. This finding expands existing research on the association between residence and condom use behaviors, which has previously revealed that individuals living in rural areas show less self-efficacy in condom negotiation (Do & Fu, 2011), as well as less condom use (Santhya et al., 2011). Taking into consideration that indirect condom promoting strategies are less assertive (Noar et al., 2002) and according to some researchers less effective in persuading one's sexual partner in using a

condom (Holland & French, 2011; Peasant et al., 2019, Tschann et al., 2010), this indicates that more educational programs to encourage condom use and the application of direct condom negotiation strategies might be needed in rural areas. It should be noted that our sample failed to include Indian participants living in rural areas.

Our results also added support to the previously found association between gender and the use of specific condom negotiation strategies (see Peasant et al., 2015). Former research has shown that women are perceived to have a stronger desire to engage in condom use than men (De Bro et al., 1994; Tschann et al., 2010). The results of our study support this assumption, as women scored significantly higher on direct condom promotion and the orientation index than men. On the other hand, men scored significantly higher on direct condom avoidance. However, again social desirability should be considered, and findings should be interpreted with caution, especially since women are more inclined towards responding in a socially desirable way (Dalton & Ortegren, 2011). Former research has widely neglected that women also engage in condom avoidance and only a few recent studies have provided insight into the broad range of strategies that women use to persuade their sexual partner to not use a condom (e.g., Wegner et al., 2018). Our study expands the existing literature by assessing condom avoidant strategies used by women.

We also found that women scored significantly higher on the directness index, meaning that they endorse more direct strategies than men, regardless of condom negotiation orientation. This finding corresponds to some previous research that has also shown that women predominantly use direct and assertive strategies such as direct request or withholding sex, especially when engaging with a casual sexual partner, whereas men do rather endorse indirect strategies such as seduction (De Bro et al. 1994; Holland & French, 2011; Noar et al., 2002; Peasant et al., 2015). Shakkon-Sparkling and Cramer (2020) assume that the reason behind this might be women's greater need "to defend against coercive strategies to have condomless sex" (p. 555) by taking an active and assertive role in the condom negotiation process. Men can unilaterally decide if they want to engage in condom use (Peasant et al., 2019). In contrast, women need to actively claim condom use, which reflects existent power imbalances in heterosexual condom negotiation (Otto-Salaj et al., 2010). However, it should be noted that findings concerning gender differences in condom negotiation are not all consistent. For instance, Lam and colleagues (2004) found that women rather engaged in indirect strategies. The apparent inconsistencies call for more research including the assessment of additional interacting factors concerning the association between gender and the use of specific condom negotiation strategies (see Peasant et al., 2015).

Further, we examined whether participants from India and Germany would differ concerning used condom negotiation strategies. German participants scored significantly higher on direct condom promotion, when compared to Indian participants. This country difference was not surprising given

previous research findings showing that individuals from cultures, that stem from countries in northwestern Europe or societies of British descent engage more frequently in direct strategies during the condom negotiation process, while in contrast, individuals from cultures that stem from countries located in Asia endorse more indirect strategies (Holland & French, 2011; Lam et al., 2004). Considering a communication-oriented perspective on culture we aimed to examine whether there is an association between high context/low context communication cultures and condom negotiation strategies, and if self-construal could explain such an association.

We first tested whether participants from Germany and India would differ in terms of context communication, thus if a classification of Germany as a low context communication culture and India as a high context communication culture, as can be found in much of the previous literature (Adair, 2003; Djurssa, 1994) is indeed valid. Contrary to our expectations, no significant difference in terms of context communication between our subsamples was found, challenging the frequently used classification of countries. This finding is analogous to recent criticism on country classifications in terms of context communication. Indeed, Kittler and colleagues (2011) state that “classifying national cultures as high context or low context in a globalizing world [...] might not be appropriate anymore” (p. 67). Our study provides support for this statement. Another explanation would be that our Indian sample predominantly consisted of educated individuals living in urban areas, was not representative and showed a higher endorsement of low context communication than the general Indian population (see also Gudykunst et al., 1996; Kapoor et al., 2003).

The same reasoning accounts for unexpected country differences in self-construal. Results showed that Indian participants scored higher on independent self-construal than German participants. This finding contrasts with Markus and Kitayama’s (1991) claims of systematic country differences in self construal, such that individuals from Asia do rather score low on independent self-construal while scoring high on interdependent self-construal (see also Levine et al., 2003; Matsumoto, 1999). Apart from having a non-representative sample, situational priming (e.g., survey language, see Gardner et al., 1999; Oyserman & Lee, 2008) and the use of suboptimal scales might be reasons for not finding the expected country differences in context communication and self-construal (Levine et al., 2003). Still, we acknowledge the importance of Hall’s (1976) concept of high context/low context communication and anticipated that an examination of context communication on individual level detached from country could provide valuable insights concerning the use of certain condom negotiation strategies. Therefore, we applied individual context communication scores as predictor variable in our subsequent mediation analyses, instead of attributing high context/low context communication culture to country.

We found that high context communication was not only as expected positively related to the use of indirect condom negotiation strategies (H1), but also to a predominance of condom avoidance (over

condom promotion). The association between context communication and directness of condom negotiation can have important implications for actual condom use. It should be considered that condom negotiation is a bidirectional process that involves at least two individuals, who can have differing predominant communication styles as well as endorsing different condom use orientations (condom promoting vs. condom avoidant). Since in some studies direct condom negotiation strategies were found to be more effective than indirect condom negotiation strategies (Holland & French, 2011; Peasant et al., 2019; Tschann et al., 2010), we would assume that a lower context communication orientation towards condom avoidance or condom promotion would overrule a higher context communication orientation. Hence, lower context communicators might have more success with influencing their sexual partner.

Further results of the conducted mediation analyses provided mixed evidence for our other hypotheses. While there was no association between context communication and independent self-construal (H2a), we found that a predominance of high context communication was associated with interdependent self-construal, which is in line with former research (Singelis & Brown, 1995; Gudykunst, 1996). Interdependent self-construal in turn was associated with the use of more indirect condom promoting strategies. While the indirect effect of context communication on indirect condom promotion strategies through interdependent self-construal reached significance, the direct association of context dependence and indirect condom promotion strategies was not significant, hence suggesting that the effect of context communication on the use of indirect condom promotion strategies is completely transmitted by interdependent self-construal, which is consistent with our hypothesis (H2b). This finding corresponds with former research suggesting that individuals with an interdependent self-construal engage more in (sexual) health-protective behaviors (e.g., Schwartz et al., 2011) as well as more in indirect communication (Gudykunst, 1996; Hara & Kim, 2001; Singelis & Brown, 1995). Markus and Kitayama (1991) claim that individuals with a predominant interdependent self-construal are more focused towards maintaining harmony in social interactions (see also Adair et al., 2016), thus it is not surprising that they use less assertive, indirect condom promoting strategies instead of clearly stating their desire to use a condom. This might have important implications for actual condom use, given that indirect condom negotiation strategies were found to be less effective in persuading a sexual partner to use condoms (Holland & French, 2011; Peasant et al., 2019, Tschann et al., 2010). When engaging with a sexual partner who holds condom avoidant attitudes, this could mean that the focus towards other individuals' needs hold by an individual with a predominant interdependent self-construal, might undermine successful condom negotiation towards condom use. Lechuga and Wiebe (2009) also found that individuals with an interdependent self-construal feel more embarrassed about condom use, which could additionally explain a more frequent use of indirect condom promoting strategies.

It should be noted that the association of high context communication with the use of indirect condom promoting strategies explained by interdependent self-construal, was the only significant mediation we found, hence we need to consider that our overall theoretical framework might be problematic. Given that results showed several direct effects of context communication on used condom negotiation strategies, such that individuals showing a predominance for high context communication use direct condom avoidant and indirect condom avoidant strategies more frequently, and direct condom promoting strategies less frequently, we need to consider the likelihood of an omitted mediator explaining the association between individual context communication and condom negotiation strategies (Zhao et al., 2010).

## **5.1 Limitations and Future Research**

Several methodological limitations of the conducted study should be acknowledged. These concern the interpretation of the data, the method of data collection and corresponding biases, the sample, and the selection of measures.

First, it should be considered that our findings need to be interpreted with caution since we conducted a cross-sectional study, meaning that causal relationships among the variables cannot be inferred. Future researchers could, for instance, temporarily prime either independent or interdependent self-construal (Lechuga & Wiebe, 2009; Oyserman & Lee, 2008) and examine how these inductions can influence the choice of condom negotiation strategies, that participants intend to use in future sexual encounters.

Second, we decided to apply a self-administered online survey and although research has shown these surveys belong to the most suitable methods to collect information on sexual (health) behavior (Basu, 1994; Catania et al., 2002), we should question how accurate given answers to the questionnaires were (i.e., self-representation and social desirability bias; Catania, 1990; Catania, 2002). Due to over- or underreporting frequencies of the use of certain condom negotiation strategies, measurement errors might have occurred. Former research has shown that a higher reliability can be assured by examining incidence items (e.g., “Did you ever use the following condom negotiation strategy?”) instead of examining frequency items (e.g., “How often did you use the following condom negotiation strategy?”; Catania et al., 2002). It is likely that some participants overreported the use of condom promoting strategies (vs. condom avoidant strategies), to conform with normative expectations. To examine the influence of social desirability, future research should consider the possibility to include measures to assess this additional variable (e.g., as has been done by Noar et al., 2002). Additionally, participants could be asked at the beginning of the survey to provide information



on their willingness to honestly disclose personal information on sexual behavior and more specifically condom use (see Catania, 2002).

Third, it should also be acknowledged that using English as survey language for the Indian sample might have influenced our results. English language could have worked as a situational prime (see Gardner et al., 1999; Oyserman & Lee, 2008), eliciting a more predominant independent self-construal in the Indian subsample, and hence explaining the unexpected result that Indian participants scored higher on independent self-construal than German participants. Moreover, although being an official language in India, English is in general exclusively spoken by individuals of the middle and the upper class, which has a limiting influence on the diversity of our sample (Basu, 1994).

Fourth, it should be noted that we were not able to recruit the minimum sample size required for the conducted statistical analyses (see Participants section), nor a balanced distribution of participants between countries. Hence, we need to assume a reduced power of our study. High drop-out rates might be due to the length of the questionnaire (i.e., fatigue; Catania, 1990). Moreover, we considered privacy concerns, embarrassment, and the influence of cultural values as possible explanations for a rather small sample size, especially concerning the Indian subsample (Basu, 1994).

The collection of information on sexual behavior can in general be perceived as a sensitive matter (Catania, 1990), and even more so in India, since sexual behavior is commonly considered a taboo topic in Indian culture (Basu, 1994). This might have hindered Indian individuals from participating. Moreover, our inclusion criteria (i.e., being single or in a relationship for less than six months as well as already sexually active) might have not been applicable to many Indian individuals that initially accessed the survey. Engaging in sexual activity before marriage is widely not allowed in Indian culture (Bhattacharya, 2004; Sujya, 2009). This does particularly apply to women. Research conducted by Sujya (2009) has shown that among Indian students, 70% think that women should not engage in sexual activity until getting married, whereas 53% of the sample believed that men should not engage in sexual activity before marriage. This might explain why our Indian sample included more men than women. Nonetheless, other research has shown that premarital sexual activity in Indian culture is not as uncommon as generally assumed and recent trends towards a higher prevalence of premarital sexual relationships among Indian youth can be observed (Joshi & Chauhan, 2011; Mohanan et al., 2014), which illustrates the relevance of conducting research on condom negotiation and condom use behavior in the Indian context. However, we assumed that in some cases individuals who might have met the criteria to participate in our survey were possibly averse to participation, because of the threat to face reprisal and social consequences when disclosing premarital and casual sexual relationships.

Our actual sample turned out to be predominantly composed of heterosexual students residing in urban areas, which means that our outcomes are not representative for the general population. Future research should focus on accessing more diverse samples including more non-heterosexual, non-

academic participants, and individuals residing in rural areas. We also propose that examination of caste as well as region of residence within the country could provide interesting additional demographic information concerning the Indian subsample, since some Indian regions/cities are considered to be more liberal and progressive (e.g., Delhi) while others are more conservative (e.g., Chennai; Subaiya, 2008). Moreover, the assessment of condom negotiation strategies used when engaging in sexual activity beyond primary relationships or used by individuals in consensual non-monogamous relationships should be examined (Hauptert et al., 2017).

Fifth, we need to question the adequacy of Singelis' (1994) Self-Construal Scale (see Levine et al., 2003). Self-construal scales have been subject of discussion among several researchers due to a supposed lack of construct validity (e.g., Gudykunst & Lee, 2003; Levine et al., 2003). We contributed to the existing research by assessing validity through a confirmatory factor analysis. However, our results support the assumption of a flawed scale. Although we dropped several items, the fit of the two-dimensional structure was unsatisfactory for our sample. Therefore, future researchers might consider the use of other (multidimensional) scales when assessing self-construal.

Concerning the newly developed ECNS, future researchers should also conduct confirmatory factor analyses with different samples to examine construct validity. Moreover, convergent validity should be assessed by correlating the scale with other variables related to sexuality, such as for example Embarrassment in Condom Use and Negotiation (Helweg & Larsen, 1994), Condom Use Self-Efficacy (Farmer & Meston, 2006; French & Holland, 2013), and Regulatory Focus in Sexuality (Rodrigues et al., 2019). Also, our scale does not distinguish between verbal/non-verbal strategies as proposed in Peasant and colleagues (2015) conceptualization of condom negotiation. Hence, for future research and an investigation of the role of verbalism in condom negotiation, we propose that the strategies included in our measure might be characterized as either verbal or nonverbal based on face validity.

It should further be noted that several other factors that might be associated to the use of certain condom negotiation strategies were not assessed in our model, such as for example the use of other contraceptives (e.g., "birth-control pill" or intrauterine devices). Individuals who use other contraceptives might rather engage in condom avoidance than condom promotion or might engage in different reasoning to promote condom use (e.g., giving STI reason instead of pregnancy reason). Moreover, we did not account for differences in used condom negotiation strategy according to different sexual practices (e.g., oral sex, anal sex, intercourse).

Apart from providing suggestions concerning improvements in methodology, we want to encourage future researchers to find a more satisfactory explanation for the existent association between context communication and used condom negotiation strategies by examining alternative variables. Also, an inclusion of individuals from other countries (e.g., countries in Latin America and

Africa; Vignoles et al., 2016) and an examination of different cultural dimensions, other than focused on communication as in the present study (e.g., power distance or uncertainty avoidance; Hofstede, 1983), should be considered to shed light on the association between culture and condom negotiation. Moreover, since condom negotiation is a dyadic process (Lam & Barnhart, 2006), future studies should additionally consider the examination of sexual partners' culture and associated variables (e.g., by applying the Actor-Partner Interdependence Model; Kashy & Kenny, 2000).

Considering the influence of a sexual partner partners' characteristics in condom negotiation was beyond the scope of our study, however, future studies should for instance investigate which individual and cultural variables influence who initiates condom negotiation within the sexual dyad. Moreover, it would be interesting to understand what occurs if condom negotiation orientations are opposed within the sexual dyad, such that one individual uses a condom avoidant while the other uses a condom promoting strategy. Would, for instance, direct condom negotiation strategies overrule indirect condom negotiation strategies? Also, it should be explored how condom negotiation differs in culturally matched (vs. not matched) sexual dyads (Lam & Barnhart, 2006), for example if low context communicators understand the intention (i.e., orientation) behind strategies used by high context communicators (Korac-Kakabadse et al., 2011).

Lastly, complementary research on differences in the effectiveness of certain condom negotiation strategies (i.e., which strategies generate actual condom use) is needed (see Peasant et al., 2019). While some researchers argue that direct condom negotiation strategies are the most effective strategies to influence a sexual partner to use a condom (Holland & French, 2011; Peasant et al. 2019; Tschann et al., 2010), it might be that effectiveness is additionally associated with individuals' and sexual partners' self-construal and context communication style. Engaging in, for instance, relationship conceptualizing might be more effective when persuading a sexual partner with an interdependent (vs. independent) self-construal to use a condom, since these individuals were found to value more relational outcomes. On the other hand, strategies such as reward or offering a trade (e.g., "Do this for me, I'll do something for you") might be more effective when influencing a sexual partner with an independent (vs. interdependent) self-construal to use a condom, since these individuals were found to be more focused on attaining personal goals (Sherman et al., 2011). These considerations highlight the importance of further examining individual and cultural variables to gain a better understanding on the condom negotiation process and subsequently design more effective skill-building trainings and culture-sensitive interventions to promote safer sex.

## 5.2 Conclusion

Ending the STI epidemics was declared one of the key health targets in the framework of the 2030 Agenda for Sustainable Development (WHO, 2016). The global health sector strategy on STIs outlines that the prevention of STI transmission through better sexual health education and the promotion of condom use should be a priority action. Since condom negotiation was found to be strongly associated with condom use behavior (Holland & French, 2011; Noar et al., 2002), research on the use of different condom negotiation strategies is valuable for informing education programs, interventions and awareness campaigns related to safer sex (Edgar et al. 2009; Latham et al., 2010).

We contributed to the existent literature with the development of a new measure, which assesses the use of condom promoting and condom avoidant strategies. Results of our study showed that individuals use a wide range of negotiation strategies, which differ in terms of orientation and directness. Among others, the use of certain condom negotiation strategies is associated with country of origin and individual context communication style. Self-construal does partially explain the differences in used condom negotiation strategies between individuals with a predominance for high context vs. low context communication.

Despite its limitations, our study makes some valuable contributions towards a better understanding on how individual and cultural variables influence the use of certain condom negotiation strategies. Considering that “culture is communication and no communication by humans can be divorced from culture” (Hall, 1992, p.212), we examined the use of condom negotiation from a communication-oriented perspective on culture without generalizing along countries. Future research on the association between culture and condom negotiation should take other cultural dimensions into account.

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## Appendix A

**Table A1**

*Descriptive Analysis of the Expanded Condom Negotiation Scale (ECNS) Items*

ECNS Items	<i>N</i>	<i>M</i>	<i>SD</i>	<i>S</i>	<i>SE S</i>	<i>K</i>	<i>SE K</i>
1. Dropping hints to your partner so that they agreed to have sex with a condom (e.g., "So-and-so just got pregnant")	229	2.15 <sup>b</sup>	1.81	1.40	.16	0.63	.32
2. Placing condoms on the pillow or somewhere in view of your partner so that they agreed to have sex with a condom	228	2.43 <sup>b</sup>	1.88	0.92	.16	-0.69	.32
3. Verbally threaten your partner so that they agreed to have sex with a condom (e.g., "no condom, no sex")	229	2.50 <sup>b</sup>	2.14	1.01	.16	-0.61	.32
4. Putting a condom on yourself or on your partner	228	3.70	2.35	0.04	.16	-1.62	.32
5. Flattering your partner so that they would agree to have sex with a condom (e.g., "We will need to use extra-large condoms")	229	1.61 <sup>b</sup>	1.41	2.46	.16	5.30	.32
6. Leaving a safer sex article or pamphlet in view of your partner	229	1.21 <sup>b</sup>	.83	5.02	.16	27.45	.32

ECNS Items	<i>N</i>	<i>M</i>	<i>SD</i>	<i>S</i>	<i>SE S</i>	<i>K</i>	<i>SE K</i>
7. Verbally expressing negative feelings towards your partner so that they agreed to have sex with a condom (e.g., object or complain)	228	2.65 <sup>b</sup>	2.06	0.89	.16	-0.68	.32
8. Physically withdrawing (moving away) from your partner if they doesn't want to use a condom	228	2.82 <sup>b</sup>	2.10	0.69	.16	-1.00	.32
9. Discussing with your partner so that they would agree to have sex with a condom (e.g., you and your partner openly discuss condom use together)	228	5.00 <sup>a</sup>	2.12	-0.82	.16	-0.71	.32
10. Seducing your partner so that they would agree to have sex with a condom (e.g., increase your partner's sexual arousal so that they forget that you're using a condom)	229	2.11 <sup>b</sup>	1.84	1.48	.16	0.84	.32
11. Giving STI reason so that your partner would agree to have sex with a condom	230	2.85 <sup>b</sup>	2.21	0.62	.16	-1.24	.32
12. Displaying negative emotions so that your	227	1.73 <sup>b</sup>	1,52	2.11	.16	3.30	.32

ECNS Items	<i>N</i>	<i>M</i>	<i>SD</i>	<i>S</i>	<i>SE S</i>	<i>K</i>	<i>SE K</i>
partner would agree to have sex with a condom (e.g., crying, looking angry, looking dissatisfied)							
13. Giving relationship reason so that your partner would agree to have sex with a condom (e.g., it will enhance our relationship)	227	1.44 <sup>b</sup>	1.26	3.19	.16	9.57	.32
14. Looking through purse or nightstand to show desire to use condom	229	2.70 <sup>b</sup>	2.02	0.69	.16	-1.05	.32
15. Giving pregnancy reason so that your partner would agree to have sex with a condom	230	3.28 <sup>b</sup>	2.38	0.32	.16	-1.58	.32
16. Handing condom to your partner	228	4.56 <sup>a</sup>	2.02	-0.59	.16	-0.93	.32
17. Directly telling your partner that you want to use condoms	228	5.41 <sup>a</sup>	2.01	-1.20	.16	0.15	.32
18. Offering a tradeoff to your partner so that they would agree to have sex with a condom (e.g., "Do this for me, I'll do something for you")	229	1.42 <sup>b</sup>	1.28	3.35	.16	10.53	.32
19. Misleading your partner so that they would agree to have sex	230	1.94 <sup>b</sup>	1.67	1.65	.16	1.49	.32

ECNS Items	<i>N</i>	<i>M</i>	<i>SD</i>	<i>S</i>	<i>SE S</i>	<i>K</i>	<i>SE K</i>
with a condom (e.g., tell partner you want to use condoms because you don't want to get pregnant, when you really are afraid of getting STIs)							
20. Getting your partner so sexually excited that they agreed to have sex without a condom	229	1.38 <sup>b</sup>	1.09	3.21	.16	9.89	.32
21. Getting your partner really aroused and then starting to have sex without a condom (i.e., "slipping it in" without a condom on)	229	1.56 <sup>b</sup>	1.25	2.45	.16	5.37	.32
22. Seducing your partner until they is willing to have sex without a condom	229	1.22 <sup>b</sup>	.78	4.50	.16	22.50	.32
23. Telling your partner how happy you would be if you had sex without a condom	227	1.42 <sup>b</sup>	1.12	3.02	.16	8.97	.32
24. Telling your partner how upset you would be if you did not have sex because you did not have a condom	230	1.68 <sup>b</sup>	1.40	2.05	.16	3.11	.32
25. Telling your partner how angry you would	229	1.19 <sup>b</sup>	.80	4.83	.16	24.54	.32

ECNS Items	<i>N</i>	<i>M</i>	<i>SD</i>	<i>S</i>	<i>SE S</i>	<i>K</i>	<i>SE K</i>
be if they insisted on using a condom							
26. Promising to have a relationship with your partner so they would have sex without a condom	229	1.19 <sup>b</sup>	.78	4.46	.16	19.92	.32
27. Telling your partner that they was special so that they would have sex without a condom	228	1.15 <sup>b</sup>	.66	4.84	.16	24.75	.32
28. Telling your partner that you trusted each other so that they would have sex without a condom	229	1.36 <sup>b</sup>	.89	2.75	.16	7.11	.32
29. Reassuring your partner that you were “clean” (i.e., did not have any STI’s) so that they would have sex without a condom	228	1.50 <sup>b</sup>	1.14	2.59	.16	6.60	.32
30. Telling your partner that you didn’t need to use a condom this time since you didn’t use one with them last time	229	1.42 <sup>b</sup>	1.06	2.94	.16	8.71	.32
31. Telling your partner that you could just use Plan B (“morning after pill”)	230	1.27 <sup>b</sup>	.78	3.33	.16	10.87	.32
32. Telling your partner you didn’t want to use a	229	1.32 <sup>b</sup>	.94	3.29	.16	10.52	.32



ECNS Items	<i>N</i>	<i>M</i>	<i>SD</i>	<i>S</i>	<i>SE S</i>	<i>K</i>	<i>SE K</i>
condom because they are uncomfortable							
33. Telling your partner you didn't want to use a condom because sex doesn't feel as good with one on	229	1.51 <sup>b</sup>	1.22	2.70	.16	6.77	.32
34. Telling your partner that you can't feel anything when you wear a condom, so you don't want to use one	229	1.30 <sup>b</sup>	.91	3.41	.16	11.39	.32
35. Telling your partner that you would have difficulty staying physically aroused if you had to use a condom	229	1.22 <sup>b</sup>	.78	3.91	.16	15.06	.32
36. Telling your partner that you would not have sex with them if you had to use a condom	228	1.43 <sup>b</sup>	1.30	3.13	.16	8.89	.32
37. Making it clear that you would not have sex if you had to use a condom	229	1.60 <sup>b</sup>	1.56	2.62	.16	5.57	.32
38. Refusing to have sex with your partner if you had to use a condom	228	1.29 <sup>b</sup>	.97	3.85	.16	15.48	.32
39. Asking your partner to not use a condom during sex	228	1.30 <sup>b</sup>	.88	3.54	.16	12.94	.32

ECNS Items	<i>N</i>	<i>M</i>	<i>SD</i>	<i>S</i>	<i>SE S</i>	<i>K</i>	<i>SE K</i>
40. Making a direct request to not use a condom	228	1.30 <sup>b</sup>	.92	3.91	.16	16.95	.32
41. Being clear that you would like to not use a condom	229	1.53 <sup>b</sup>	1.33	2.75	.16	6.91	.32
42. Pretending that you have a latex allergy and cannot use condoms	229	1.08 <sup>b</sup>	.39	5.67	.16	34.32	.32
43. Pretending that you had been tested and did not have any STI's	229	1.11 <sup>b</sup>	.55	6.27	.16	43.87	.32
44. Agreeing to use a condom, but intentionally breaking the condom when putting it on	229	1.07 <sup>b</sup>	.49	8.22	.16	70.88	.32
45. Agreeing to use a condom, but intentionally breaking the condom after it was on	229	1.07 <sup>b</sup>	.47	7.03	.16	51.58	.32
46. Agreeing to use a condom, but removing it before or during sex without telling	230	1.11 <sup>b</sup>	.63	7.08	.16	54.82	.32
47. Preventing your partner from getting a condom by staying on top	228	1.11 <sup>b</sup>	.56	6.11	.16	40.77	.32
48. Threatening to hurt your partner if they	228	1.04 <sup>b</sup>	.29	8.08	.16	69.42	.32

ECNS Items	<i>N</i>	<i>M</i>	<i>SD</i>	<i>S</i>	<i>SE S</i>	<i>K</i>	<i>SE K</i>
would not have sex without a condom							
49. Using physical force to get your partner to have sex without a condom	229	1.05 <sup>b</sup>	.41	8.01	.16	65.38	.32

*Note.* Items retrieved from Lam et al. (2004) and Davis et al. (2014). Skewness: two items (i.e., 4, and 15) presented a symmetric distribution, 44 items (i.e., 1, 2, 3, 5, 6, 7, 8, 10, 11, 12, 13, 14, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, and 49) presented a positive skew, and three items presented a negative skew (i.e., 9, 16, and 17); Kurtosis: six items (i.e., 1, 2, 3, 7, 9, and 17) presented a mesokurtic distribution-like shape, 37 items presented a leptokurtic shape (i.e., 5, 6, 10, 12, 13, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, and 49) and six items (i.e., 4, 8, 11, 14, 15, and 16) presented a platykurtic shape.

*S* skewness, *SE E* standard error of skewness, *K* kurtosis, *SE K* standard error of kurtosis.

<sup>a</sup> Item mean above the scale midpoint (one-sample *t* test,  $p \leq .050$ ). <sup>b</sup> Item mean below the scale midpoint (one-sample *t* test,  $p \leq .050$ ).

**Table A2***Mediation Analyses Including Covariates*

			<i>Model A</i>	<i>Model B</i>	<i>Model C</i>	<i>Model D</i>	<i>Model E</i>	<i>Model F</i>
	M1	M2	Direct Condom Avoidance	Indirect Condom Avoidance	Direct Condom Promotion	Indirect Condom Promotion	Orientation Index	Directness Index
<i>Predictors</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>
Context	0.09 (.09)	0.40 (.09)***	0.16 (.09)	0.12 (.06)*	-0.34 (.18)	0.08 (.13)	-0.30 (.14)*	-0.17 (.09)
Independent Self- construal (M1)			0.06 (.07)	0.04 (.04)	0.07 (.13)	0.10 (.09)	0.03 (.10)	-0.00 (.07)
Interdependent Self- construal (M2)			-0.01 (.07)	-0.00 (.04)	-0.03 (.13)	0.23 (.09)*	0.09 (.10)	-0.12 (.06)
<i>Indirect effects</i>			<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>
Independent Self- construal			0.01 (.01) [- 0.01; 0.03]	0.00 (.01) [- 0.01; 0.02]	0.01 (.02) [- 0.03; 0.05]	0.01 (.02) [-0.02; 0.05]	0.00 (.01) [- 0.03; 0.03]	-0.00 (.01) [- 0.02; 0.02]
Interdependent Self- construal			-0.01 (0.03) [- 0.07; 0.04]	0.00 (.01) [- 0.03; 0.02]	-0.01 (.06) [- 0.13; 0.12]	0.09 (.05) [0.01; 0.20]	0.04 (.05) [- 0.05; 0.15]	-0.05 (.03) [- 0.11; 0.01]
<i>Total effects</i>			<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>	<i>b (SE) [95% CI]</i>
Context			0.16 (.09) [- 0.01; 0.33]	0.13 (.05) [0.02; 0.23]	-0.35 (.17) [- 0.67; -0.02]	0.18 (.12) [-0.06; 0.42]	-0.26 (.13) [- 0.52; -0.01]	-0.22 (.09) [- 0.39; -0.05]

\* $p \leq .050$ . \*\* $p \leq .010$ . \*\*\* $p \leq .001$ .

## Appendix B

### Expanded Condom Negotiation Scale (ECNS)

#### Instructions

Thinking about your sexual encounters, how do you bring up the topic of condom use with a casual sex partner? More specifically, how often do you use each of the following strategies to persuade your sex partner to use or not use a condom?

---

1. Telling your partner you didn't want to use a condom because sex doesn't feel as good with one on.  
Never used | 1 2 3 4 5 6 7 | Always used
2. Telling your partner that you can't feel anything when you wear a condom, so you don't want to use one.  
Never used | 1 2 3 4 5 6 7 | Always used
3. Telling your partner you didn't want to use a condom because they are uncomfortable.  
Never used | 1 2 3 4 5 6 7 | Always used
4. Telling your partner how happy you would be if you had sex without a condom.  
Never used | 1 2 3 4 5 6 7 | Always used
5. Being clear that you would like to not use a condom.  
Never used | 1 2 3 4 5 6 7 | Always used
6. Telling your partner that you would have difficulty staying physically aroused if you had to use a condom.  
Never used | 1 2 3 4 5 6 7 | Always used
7. Telling your partner that you didn't need to use a condom this time since you didn't use one with them last time.  
Never used | 1 2 3 4 5 6 7 | Always used
8. Telling your partner that you could just use Plan B ("morning after pill").  
Never used | 1 2 3 4 5 6 7 | Always used
9. Asking your partner to not use a condom during sex.  
Never used | 1 2 3 4 5 6 7 | Always used
10. Agreeing to use a condom, but intentionally breaking the condom after it was on.  
Never used | 1 2 3 4 5 6 7 | Always used

11. Agreeing to use a condom, but intentionally breaking the condom when putting it on.  
Never used | 1 2 3 4 5 6 7 | Always used
12. Telling your partner that they were special so that they would have sex without a condom.  
Never used | 1 2 3 4 5 6 7 | Always used
13. Pretending that you have a latex allergy and cannot use condoms.  
Never used | 1 2 3 4 5 6 7 | Always used
14. Promising to have a relationship with your partner so they would have sex without a condom.  
Never used | 1 2 3 4 5 6 7 | Always used
15. Preventing your partner from getting a condom by staying on top.  
Never used | 1 2 3 4 5 6 7 | Always used
16. Pretending that you had been tested and did not have any STI's.  
Never used | 1 2 3 4 5 6 7 | Always used
17. Offering a trade-off to your partner so that they would agree to have sex with a condom (e.g., "Do this for me, I'll do something for you").  
Never used | 1 2 3 4 5 6 7 | Always used
18. Flattering your partner so that they would agree to have sex with a condom (e.g., "We will need to use extra-large condoms").  
Never used | 1 2 3 4 5 6 7 | Always used
19. Misleading your partner so that they would agree to have sex with a condom (e.g., tell partner you want to use condoms because you don't want to get pregnant, when you really are afraid of getting STIs).  
Never used | 1 2 3 4 5 6 7 | Always used
20. Giving relationship reason so that your partner would agree to have sex with a condom (e.g., it will enhance our relationship).  
Never used | 1 2 3 4 5 6 7 | Always used
21. Seducing your partner so that they would agree to have sex with a condom (e.g., increase your partner's sexual arousal so that they forget that you're using a condom).  
Never used | 1 2 3 4 5 6 7 | Always used
22. Verbally expressing negative feelings towards your partner so that they agreed to have sex with a condom (e.g., object or complain).  
Never used | 1 2 3 4 5 6 7 | Always used
23. Physically withdrawing (moving away) from your partner if they doesn't want to use a condom.  
Never used | 1 2 3 4 5 6 7 | Always used

24. Verbally threaten your partner so that they agreed to have sex with a condom (e.g., "no condom, no sex").  
Never used | 1 2 3 4 5 6 7 | Always used
25. Displaying negative emotions so that your partner would agree to have sex with a condom (e.g., crying, looking angry, looking dissatisfied).  
Never used | 1 2 3 4 5 6 7 | Always used
26. Discussing with your partner so that they would agree to have sex with a condom (e.g., you and your partner openly discuss condom use together).  
Never used | 1 2 3 4 5 6 7 | Always used
27. Giving pregnancy reason so that your partner would agree to have sex with a condom.  
Never used | 1 2 3 4 5 6 7 | Always used
28. Directly telling your partner that you want to use condoms.  
Never used | 1 2 3 4 5 6 7 | Always used
29. Giving STI reason so that your partner would agree to have sex with a condom.  
Never used | 1 2 3 4 5 6 7 | Always used

### Scoring Instructions

Compute a mean score for `direct_condom_avoidance` by averaging items 1, 2, 3, 4, 5, 6, 7, 8, 9.

Compute a mean score for `indirect_condom_avoidance` by averaging items 10, 11, 12, 13, 14, 15, 16.

Compute a mean score for `indirect_condom_promotion` by averaging items 17, 18, 19, 20, 21.

Compute a mean score for `direct_condom_promotion` by averaging items 22, 23, 24, 25, 26, 27, 28, 29.

Compute a mean score for `condom_avoidance` by averaging items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

Compute a mean score for `condom_promotion` by averaging items 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29.

Compute a mean score for `direct_negotiation` by averaging items 1, 2, 3, 4, 5, 6, 7, 8, 9, 22, 23, 24, 25, 26, 27, 28, 29.

Compute a mean score for `indirect_negotiation` by averaging items 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21.

Compute an index of condom negotiation orientation by subtracting `condom_avoidance` scores from `condom_promotion` scores.

Compute an index of condom negotiation directness by subtracting `indirect_negotiation` scores from `direct_negotiation` scores.

### Syntax for SPSS

```
COMPUTE direct_condom_avoidance = mean(CNS_1,CNS_2,CNS_3,CNS_4,CNS_5,CNS_6,CNS_7,CNS_8,CNS_9).  
COMPUTE indirect_condom_avoidance = mean(CNS_10,CNS_11,CNS_12,CNS_13,CNS_14,CNS_15,CNS_16).  
COMPUTE indirect_condom_promotion = mean(CNS_17,CNS_18,CNS_19,CNS_20,CNS_21).  
COMPUTE direct_condom_promotion = mean(CNS_22,CNS_23,CNS_24,CNS_25,CNS_26,CNS_27,CNS_28,CNS_29).  
COMPUTE condom_avoidance = mean(CNS_1,CNS_2,CNS_3,CNS_4,CNS_5,CNS_6,CNS_7,CNS_8,CNS_9,CNS_10,CNS_11,CNS_12,CNS_13,CNS_14,CNS_15,CNS_16).  
COMPUTE condom_promotion = mean(CNS_17,CNS_18,CNS_19,CNS_20,CNS_21,CNS_22,CNS_23,CNS_24,CNS_25,CNS_26,CNS_27,CNS_28,CNS_29).  
COMPUTE direct_negotiation = mean(CNS_1,CNS_2,CNS_3,CNS_4,CNS_5,CNS_6,CNS_7,CNS_8,CNS_9,CNS_22,CNS_23,CNS_24,CNS_25,CNS_26,CNS_27,CNS_28,CNS_29).  
COMPUTE indirect_negotiation = mean(CNS_10,CNS_11,CNS_12,CNS_13,CNS_14,CNS_15,CNS_16,CNS_17,CNS_18,CNS_19,CNS_20,CNS_21).  
COMPUTE index_orientation = condom_promotion - condom_avoidance.  
COMPUTE index_directness = direct_negotiation - indirect_negotiation.  
EXECUTE.
```