

RESEARCH ARTICLE

Dirty weekends and personal hygiene products: The embodiment of casual sex in marketing

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Abstract

In the current inquiry, we propose that reminders of casual sex might lead individuals to feel physically dirty, and this would then motivate consumers to acquire and like personal hygiene products such as toothpaste, body soap, and face wash. We further test the possibility that our hypothesized effect would arise mainly for those who link casual sex with impurity. In three studies, reminders of casual sex increase liking for personal hygiene products mainly among conservative (Study 1), religious (Study 2), and individuals who see “casual sex” to be “dirty,” “wrong,” or even “immoral” (Study 3). These findings are consistent with embodied cognition, suggesting that abstract representations can effect concrete sensations. We study this possibility in a novel domain in sex and sexuality. Our work is relevant to marketers of personal hygiene products, but we situate our findings in the broader discourse of how mere reminders of casual sex might influence individuals’ choices and behaviors.

KEYWORDS

casual sex, embodied cognition, impurity, personal hygiene

1 | INTRODUCTION

Many everyday sayings suggest that casual sex is something that is “contaminated,” “impure,” even “wrong” and “immoral.” The word “dirty” is especially prevalent. Consider the phrase “dirty weekend.” It refers to a brief sojourn with someone (often someone you just met) primarily for the purpose of having sexual relations. Similarly, many sexual innuendos are seen as “dirty jokes.” And during the actual act of casual sex, especially one with underscores of lust, the man is typically the “bad boy” and the woman is the “dirty girl.” Such views of “casual sex” have been noted academically as well. In research, the relations have been referred to as “chance encounters” (Fisher & Byrne, 1978), “one-night stands” (Cubbins & Tanfer, 2000), or “hookups” (Paul, McManus, & Hayes, 2000), among other terms. Whatever the term is, those in a “casual sex” relationship does not define it as romantic or their partner as boyfriend or girlfriend but based upon spontaneous sexual desire or physical attraction (Simpson & Gangestad, 1992).

Reminders of casual sex abound. People might hear about it on television shows and in the movies, or they may overhear it in a

neighboring discussion at the coffee shop. People might also be talking with someone about their own brief sexual encounters. While literature on sex and sexuality is replete with research concerning how sexual stimuli, especially in marketing, affect behavior (Ariely & Loewenstein, 2006; Chan, 2015; van den Bergh, Dewitte, & Warlop, 2008; Wilson & Daly, 1985), there is much less work on how mere reminders of casual sex can also do so, save for how it affects creativity and analytic thinking (Förster, Epstude, & Özelsel, 2009). As reminders of casual sex abound, it thus is important to understand how other ways in which people are exposed to sex, sexuality, and related concepts might impact their choices and behaviors, whether in consumption contexts or everyday life.

In the current inquiry, we posit that mere reminders of casual sex can lead people to physically feel that they are unclean. This thesis stems from how abstract representations exert real concrete sensations (Boroditsky & Ramscar, 2002; Lakoff & Johnson, 1980; Wilson, 2002). For example, people who are suspicious of others are more likely to “smell” fish oil sprayed in a room (Lee & Schwarz, 2012), individuals who experience embarrassment regain or recover face merely by choosing sunglasses and cosmetics (Dong, Huang, &

Wyer, 2013), and experiencing regret can be regulated via use of consumer products (Rotman, Lee, & Perkins, 2017). Such and other results arise because physical experiences overlap with cognitive processes (Boroditsky & Ramscar, 2002; Wilson, 2002). The mind employs abstract concepts to register body movements, but because of their direct or concrete nature, body movements and sensorimotor experiences are used by the human mind to comprehend more abstract concepts (Lakoff & Johnson, 1980; Zhong & Leonardelli, 2008; Zhong & Liljenquist, 2006).

Thus, given this discussion, we hypothesize that mere reminders of casual sex might stimulate people's physical sensation of dirtiness or impurity. If this is true, then reminders of casual sex should motivate people to like or choose personal hygiene products that can cleanse them of their felt dirtiness. But if so, it should also mean the effect would only be apparent for those who do in fact see casual sex to be "dirty," "impure," or "wrong." Indeed, there are likely population- and individual-level differences in such a view. Some individuals are more open to casual sex, seeing it acceptable or permissible. Prior research has observed that young adults fit into this category (Grello, Welsh, & Harper, 2006; Regan & Dreyer, 1999). We seek to test two other population-level moderators and an individual-level one.

In Study 1, we look at possible differences in political ideology. Conservatives usually are less open to sexual activity outside of traditional settings. As one example, Haidt and Hersh (2001) found that conservatives, compared with liberals, were more likely to moralize or condemn gay sexual activity. Similarly, conservatives tend to be more opposed to changes in traditional sex roles (Larsen, & Long, 1988). These findings are due in part to conservatives experiencing disgust, with disgust predicting strong negative attitudes toward sexuality outside of socially accepted norms (Hodson & Costello, 2007; Rozin, Lowery, Imada, & Haidt, 1999). Thus, we propose that reminders of casual sex might increase preference for personal hygiene products more among conservatives than liberals. In Study 2, we posited that religious consumers would more likely to prefer personal hygiene products when they are reminded of casual sex. As with political conservatism, people who are religious consider concepts of sex and sexuality outside of traditionally accepted norms and practices as morally offensive (Johnson, Brems, & Alford-Keating, 1997; Rosik, Griffith, & Cruz, 2007). These attitudes are also, like conservatives, based on the feeling of disgust (Hodson & Costello, 2007). To be sure, previous work on conservative and religious attitudes toward sex focused primarily on attitudes toward homosexuality but it is conceivable that conservatives and religious individuals would also find *casual sex* to be impure since such relationships are outside of monogamous or at least committed relationships (Burdette, Ellison, Hill, & Glenn, 2009).

In Study 3, we explore a potential individual-level moderator. Political conservatism and religiosity are useful population-level variables by offering a clear way for marketers to segment the market. A more direct way that would contrast these different individuals' attitudes would be to measure it by utilizing the Brief Sexual Attitudes Scale (BSAS; Hendrick, Hendrick, & Reich, 2006)

because conservative and religious individuals also differ on other outcomes, for instance, gender and income. Thus, we propose that people who have more traditional views about sex and sexuality as assessed by the BSAS would more likely prefer or opt for personal hygiene products when reminded of casual sex.

We now report the three studies in turn. In our General Discussion, we will situate our work in the research on sex or sexuality, inside and outside of marketing more thoroughly. We will also offer some practical implications for marketers who sell not only personal hygiene but other products as well.

2 | STUDY 1: CONSERVATIVES AND TOOTHPASTE

The goal of Study 1 was to test our research hypothesis that reminders of casual sex would prompt individuals to express liking for personal hygiene products because they feel unclean themselves and the effect would mainly arise among conservatives. Here, we had participants imagine themselves having casual sex or in a committed, long-term relationship. They then indicated their liking for toothpaste. To measure our presumed mediator of dirtiness, participants also indicated how dirty they felt to be. We hypothesized that conservatives, but not liberals, who were reminded of casual sex would see themselves as dirty, prompting them to like personal hygiene products more.

2.1 | Methods

We recruited 551 participants from Mechanical Turk ($M_{\text{age}} = 40.10$ years old; 189 men and 362 women). Our prescreening questionnaire ensured that they either supported the Democratic or Republican Party. For a profile of Mechanical Turk users, please see Paolacci and Chandler (2014). In our sample, 305 indicated that they held an undergraduate degree, 212 were married, and 398 were used full-time.

All our participants were first randomly assigned to either the casual sex, love, or a control condition. We added a control to assess the directionality of our effect, to ensure that it was the casual sex condition driving it. Following Förster et al. (2009) Study 1, we instructed those in the casual sex condition to visualize having casual sex with someone to whom they were attracted but not in love with. Participants in the love condition were instructed to visualize a long walk with a romantic partner and how much they loved each other. Those in the control condition wrote what they did the day before. We compared reminders of casual sex with those of love as it should only be the former that has negative connotations. Without doubt, committed relationships can also feature sexual interactions, but such encounters are not immoral or at least more socially accepted. See the appendix for a pretest.

Then, we showed participants an image of a Colgate toothpaste—without giving them any other information about the product, not even its price. They indicated how much they liked the toothpaste on a 9-point scale ranging from 1 = "Not at All" to 9 = "Very Much." Finally, they responded to a series of statements that started with the stem

"I feel..." The two target items were "impure" and "dirty." The items were presented randomly.

According to our sensitivity power analysis on G*Power, the sample size could test an effect size of $f = 0.11$ at the $\alpha = 0.05$, and a 0.80 power levels. We did not assess other variables in the study. We did not analyze data before data collection finished. No further data was collected after data analysis.

2.2 | Results

2.2.1 | Product liking

A 2 (Democratic, Republican Party) \times 3 (*casual sex, love, control*) analysis of variance (ANOVA) on liking for the toothpaste revealed a main effect of casual sex, love, or control, $F(2, 545) = 17.91$, $p < 0.001$, $d = 0.51$: Those in the casual sex condition had a higher liking ($M = 6.70$, standard deviation [SD] = 2.32) than those in either the love ($M = 5.37$, $SD = 2.22$), $t(369) = 5.61$, $p < 0.001$, $d = 0.58$, or the control condition ($M = 5.77$, $SD = 2.55$), $t(363) = 3.63$, $p < 0.001$, $d = 0.38$. There was no difference in the political party ($p = 0.27$). As such, the casual sex condition prompted participants to express a greater liking for our target personal hygiene product.

There was also a significant two-way interaction, $F(2, 545) = 14.97$, $p < 0.001$, $d = 0.46$. There was no difference across the casual sex ($M = 6.00$, $SD = 2.65$), love ($M = 5.83$, $SD = 2.05$), and the control conditions ($M = 6.06$, $SD = 2.31$) on product liking for Democrats ($p = 0.75$). But there was a significant difference between casual sex ($M = 7.28$, $SD = 1.83$) and love ($M = 4.53$, $SD = 2.28$), $t(165) = 8.55$, $p < 0.001$, $d = 1.33$, and between casual sex and the control ($M = 5.43$, $SD = 2.78$), $t(183) = 5.40$, $p < 0.001$, $d = 0.79$, for Republicans, $F(2, 248) = 31.27$, $p < 0.001$, $d = 1.00$. Figure 1 graphs the results.

2.2.2 | Feeling dirty

We averaged the two measures of feeling impure and dirty ($r = 0.79$, $p < 0.001$) to form a single index, with higher scores indicating

greater feelings of physical dirtiness. A 2 \times 3 ANOVA on this measure revealed a main effect of casual sex, love, or control, $F(2, 545) = 10.10$, $p < 0.001$, $d = 0.38$: Those in the casual sex condition felt dirtier ($M = 5.76$, $SD = 2.04$) than those in either the love ($M = 5.25$, $SD = 1.77$), $t(369) = 2.56$, $p < 0.02$, $d = 0.27$, or the control condition ($M = 4.92$, $SD = 1.42$), $t(363) = 4.50$, $p < 0.001$, $d = 0.47$. There was no difference in political ideology ($p = 0.84$). Therefore, imagining having casual sex prompted participants to feel physically dirtier.

But, there was a significant 2 \times 2 interaction, $F(2, 545) = 3.03$, $p < 0.05$, $d = 0.21$. There was no difference across the casual sex ($M = 5.50$, $SD = 1.60$), love ($M = 5.39$, $SD = 1.88$), and control conditions ($M = 5.01$, $SD = 1.39$) for Democrats ($p = 0.09$). For Republicans, there was a difference between casual sex ($M = 5.98$, $SD = 2.34$) and love ($M = 4.98$, $SD = 1.52$), $t(165) = 3.05$, $p < 0.01$, $d = 0.47$, and between casual sex and the control condition ($M = 4.84$, $SD = 1.46$), $t(183) = 3.85$, $p < 0.001$, $d = 0.56$, $F(2, 248) = 9.93$, $p < 0.001$, $d = 0.56$. Figure 2 presents the results.

2.2.3 | Moderated mediation analysis

We then conducted a moderated mediation analysis to ascertain if reminders of casual sex would increase feelings of physical dirtiness to then increase preference for the toothpaste and if the effect is strongest for Republicans than Democrats. Thus, we used Model 8 of Preacher and Hayes' (2008) bootstrapping protocols for SPSS (IBM SPSS Statistics: version 25, by IBM, Armonk, New York). Since there was no difference between the love and control conditions, we collapsed the two into a baseline. This served as our independent variable (1 = *casual sex*, 0 = *baseline*), physical dirtiness was our presumed mediating variable, toothpaste liking was the dependent variable, and political party (0 = *Democrat*, 1 = *Republican*) was our moderating variable.

For Republicans, the indirect effect was estimated to lie between 0.03 and 0.18, meaning that mediation was significant. However, for Democrats, the indirect effect was estimated to lie between -0.03 and 0.04, meaning that mediation was not significant. Most crucially,

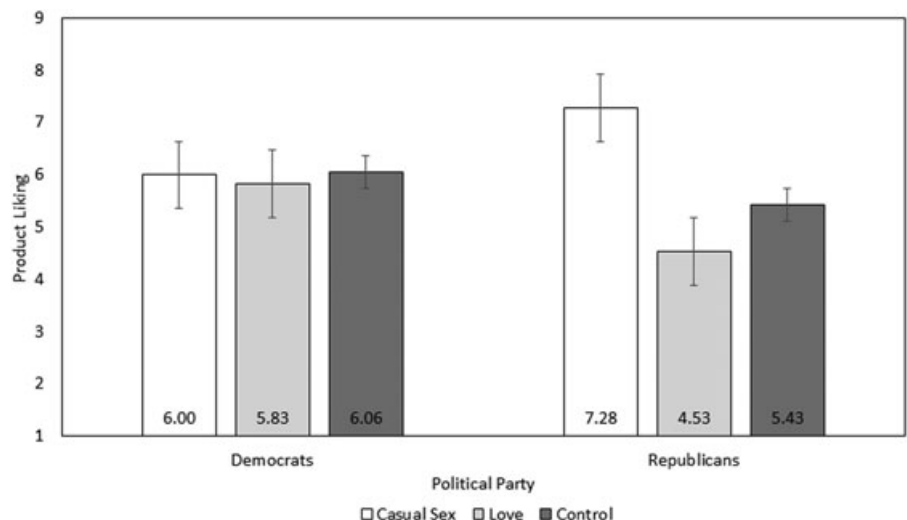


FIGURE 1 Study 1: Colgate toothpaste liking. Higher scores indicate higher product liking. Standard error bars presented

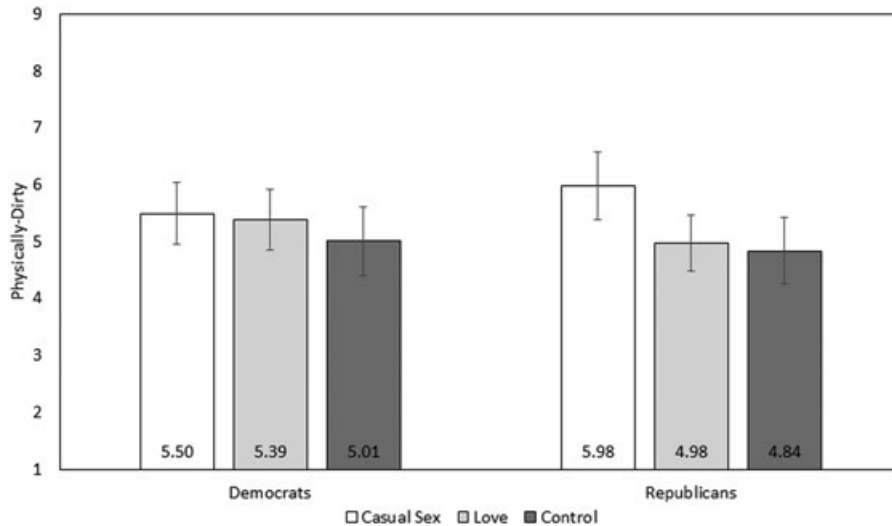


FIGURE 2 Study 1: Feeling physically dirty. Higher scores indicate greater feelings of physical dirtiness. Standard error bars presented

the index of moderated mediation was estimated to lie between 0.003 and 0.05, meaning that the two indirect effects were significantly different from each other. This mediation analysis was conducted at a 95% confidence interval (CI) with 10,000 bootstrapped samples.

2.3 | Discussion

These findings indicate that individuals who are reminded of casual sex subsequently consider themselves to be physically dirty, consistent with how abstract representations elicit concrete or physical sensations. Further, we test the effect on behavior. We show that reminders of casual sex increase liking for a personal hygiene product (toothpaste in our case), likely as one means to physically clean themselves of their impurity. Crucially, however, we observe that the effect is moderated, this time by individuals' political ideology. Since conservatives tend to have more negative attitudes toward casual sex, right-leaning individuals should feel physically dirtier the most, and most likely to increase preference for personal hygiene products, at least compared with left-leaning individuals. We find evidence for this.

3 | STUDY 2: RELIGIOSITY AND BAR SOAP

In Study, we test the possibility that our effect (reminders of casual sex would increase preference for personal hygiene items) would more strongly arise for those who are religious, as religiosity can also predict negative attitudes toward casual sex and concepts of sex and sexuality outside of socially accepted norms.

We also sought two other key changes from Study 1. Can our effect generalize beyond toothpaste to other personal hygiene products? Here, we test our effect on bar soap to generalize the effect across one other personal hygiene products. Second, we observed mediating effects of feeling physically dirty, but we wanted to test here that reminders of casual sex might motivate a person to

physically cleanse their bodies. In a way, the desire to clean oneself physically should intuitively lead to preference for personal hygiene products yet it was also vital to illustrate that reminders of casual sex do not simply shift feelings of cleanliness (Study 1) but also affects goal-directed behaviors (Study 2). Thus, we tested our mediating mechanism differently.

3.1 | Methods

We recruited 468 participants from Prolific Academic ($M_{\text{age}} = 35.19$ years old; 252 men and 216 women). For a profile of the Prolific participant pool, see Peer, Brandimarte, Samat, and Acquisti (2017). In our sample, 342 indicated that they held an undergraduate degree, 198 were married, and 345 were used full-time.

The experimental procedure was largely identical to before, with three conditions. Then, participants saw an image of a Dove bar soap, also without accompanying information and price; it was also a gender-neutral bar soap. Participants indicated their soap liking on a single 9-point scale. Then indicated how much they wanted to "take a walk," "do grocery shopping," and crucially, "take a shower," on separate 9-point scales from 1 = "Not at All" to 9 = "Very Much." "Take a shower" served as our presumed mediating variable. When filling out the demographics, participants indicated their religiosity (binary: religious or not religious).

According to our sensitivity power analysis on G*Power, the sample size could test an effect size of $f = 0.13$ at the $\alpha = 0.05$ and a 0.80 power levels. We did not assess other variables in the study. We did not analyze the data before data collection finished. No further data was collected after data analysis.

3.2 | Results

3.2.1 | Product liking

A 2 (*religious, not religious*) \times 3 (*casual sex, love, control*) ANOVA on liking for the bar soap revealed a main effect of casual sex, love, or control, $F(2, 462) = 12.88, p < 0.001, d = 0.47$: Those in the casual sex

condition expressed a higher liking for the bar soap ($M = 6.04$, $SD = 2.21$) than those in the love ($M = 4.62$, $SD = 2.52$), $t(328) = 5.74$, $p < 0.001$, $d = 0.63$, and control conditions ($M = 4.52$, $SD = 2.69$), $t(292) = 5.29$, $p < 0.001$, $d = 0.62$. There was also a main effect of participants' religiosity, $F(2, 462) = 16.11$, $p < 0.001$, $d = 0.37$. Religiosity increased liking more ($M = 5.48$, $SD = 2.64$) than irreligiosity ($M = 4.47$, $SD = 2.06$).

The two-way interaction was also significant, $F(2, 462) = 4.26$, $p < 0.02$, $d = 0.27$. Among nonreligious participants, casual sex did not affect liking ($M = 4.89$, $SD = 2.04$) relative to love ($M = 4.21$, $SD = 1.48$), and the control condition ($M = 4.44$, $SD = 2.73$) ($p = 0.17$). But among religious participants, casual sex increased liking ($M = 6.65$, $SD = 2.06$) compared with either the love ($M = 5.00$, $SD = 2.74$), $t(190) = 4.72$, $p < 0.001$, $d = 0.68$, or the control condition ($M = 4.57$, $SD = 2.68$), $t(184) = 5.96$, $p < 0.001$, $d = 0.87$, $F(2, 273) = 18.38$, $p < 0.001$, $d = 0.73$. Figure 3 offers the results.

3.2.2 | Taking a shower

A 2×3 ANOVA on participants' desire to take a shower revealed a main effect of casual sex, love, or control, $F(2, 462) = 2.53$, $p = 0.08$, $d = 0.15$: Participants in the casual sex condition wanted to take a shower more ($M = 6.50$, $SD = 2.64$) than those in the love ($M = 5.76$, $SD = 2.56$), $t(328) = 2.58$, $p < 0.02$, $d = 0.28$, or the control condition ($M = 5.57$, $SD = 2.95$), $t(292) = 2.86$, $p < 0.01$, $d = 0.33$. There was also no effect of religiosity ($p = 0.21$).

Importantly, there was a significant two-way interaction, $F(2, 462) = 4.27$, $p < 0.02$, $d = 0.27$. There was no difference across the casual sex ($M = 5.67$, $SD = 3.12$), love ($M = 5.64$, $SD = 2.07$), and control conditions ($M = 5.89$, $SD = 3.13$) for irreligious participants ($p = 0.86$). But for religious participants, there was a difference between casual sex ($M = 6.94$, $SD = 2.24$) and love ($M = 5.87$, $SD = 2.74$), $t(190) = 2.85$, $p < 0.01$, $d = 0.41$, and also between casual sex and the control condition ($M = 5.36$, $SD = 2.83$), $t(184) = 4.25$, $p < 0.001$, $d = 0.63$, $F(2, 273) = 8.61$, $p < 0.001$, $d = 0.35$. Figure 4 presents the results.

3.2.3 | Taking a walk and grocery shopping

A 2×3 ANOVA on participants' desire to take a walk revealed no main effects nor an interaction ($ps > 0.31$). There was similarly no main effect or interaction on participants' desire to do grocery shopping ($ps > 0.11$).

3.2.4 | Moderated mediation analysis

We then conducted a moderated mediation analysis to ascertain if reminders of casual sex would increase feelings of physical dirtiness to then increase preference for the bar soap and if the effect is strongest for religious than irreligious participants. Thus, we used Model 8 of Preacher and Hayes' (2008) SPSS protocols. Given that there was no difference between the love and control conditions, we collapsed them into a baseline. This was our independent variable (1 = casual sex, 0 = baseline), desire to take a shower was the presumed mediating variable, bar soap liking was the dependent variable, and religiosity (0 = religious, 1 = nonreligious) was our moderating variable. For the religious, the indirect effect was estimated to lie between 0.002 and 0.09, thus mediation was significant. But for the nonreligious, the indirect effect was estimated between -0.08 and 0.12, thus mediation was insignificant. Crucially, the index of moderated mediation was estimated between 0.01 and 0.08, meaning that the two indirect effects were significantly different from each other. The mediation analysis was conducted at a 95% CI with 10,000 bootstrapped samples.

3.3 | Discussion

These findings conceptually replicate the results from Study 1, with the posited effect (casual sex reminders increasing felt dirtiness and liking for personal hygiene products) being strongest for those who hold more negative attitudes toward casual sex. We showed that those who are politically conservative fit this category in Study 1. Here, we report that the religiosity of individuals also moderate the effect, with the effect being more pronounced for religious than for nonreligious participants. Because religious individuals tend to have more negative attitudes

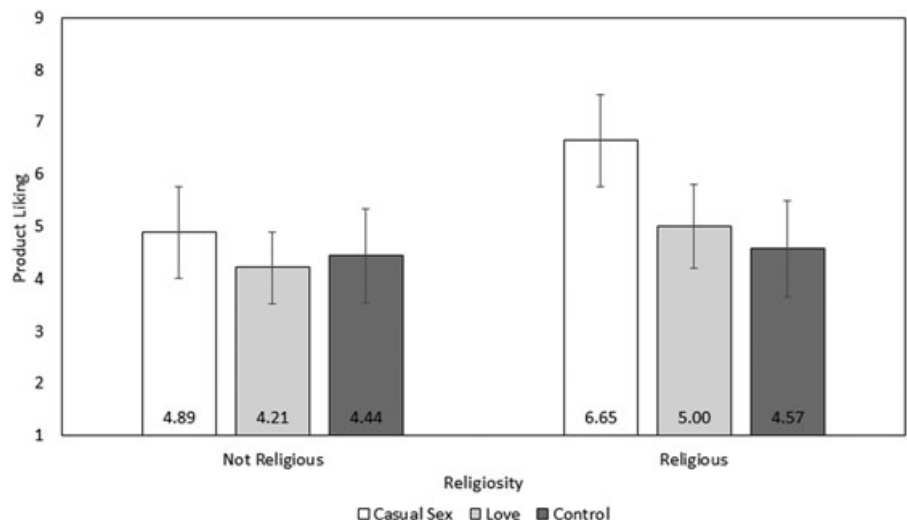


FIGURE 3 Study 2: Dove bar soap liking. Higher scores indicate higher product liking. Standard error bars presented

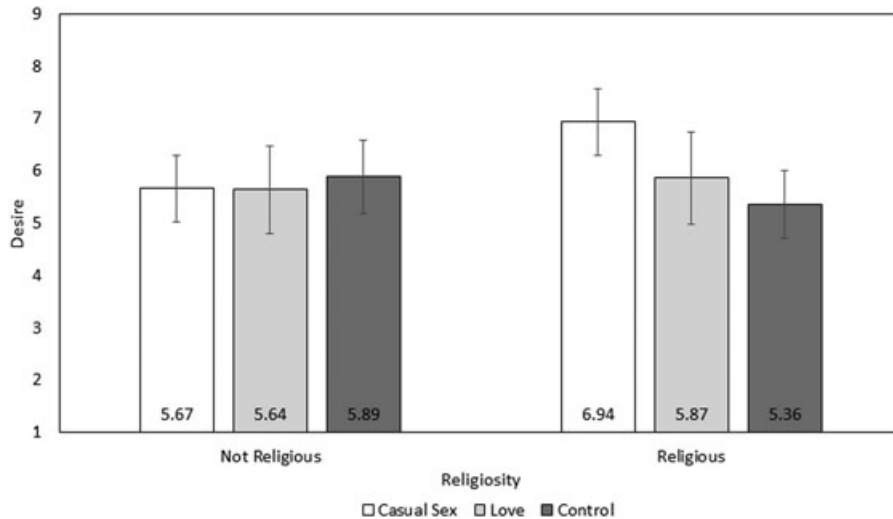


FIGURE 4 Study 2: Desire to take a shower. Higher scores indicate stronger desire to take a shower. Standard error bars presented

toward, the findings we obtain make sense. In this study, we also use a different question to test for mediation. In Study 1, we assessed felt physical dirtiness. Here, we assessed participants' desire to take a shower, thus showing that (religious) participants' greater liking for bar soap when they are reminded of casual sex is likely goal-motivated.

4 | STUDY 3: BSAS AND FACE WASH

Both Studies 1 and 2 are useful population-level moderators for the effect, as marketers can easily segment the market based on the variables. In our final study, here, we wanted to test a potential moderator at the individual level. In particular, a more direct way to test our thesis that our theorized effect would be moderated by the degree to which individuals might hold negative attitudes toward casual sex would be to measure it such as using the BSAS (Hendrick et al., 2006). As such, we used this scale and predicted that our effect would primarily occur among people who perceive casual sex to be something "wrong" or "improper," if not outright "immoral."

We made two further changes to this final study of ours. First, we have so far used visualization exercises consistent with Förster et al. (2009), but there other ways of reminding individuals of casual sex. Second, we explored individuals' preference for toothpaste (Study 1) and bar soap (Study 2), but might reminders of casual sex elicit greater liking for *any* product? This could, of course, explain our effects in Studies 1 and 2 but also indicate that they may not be specific to personal hygiene products. To rule out this possibility, we compared product liking for a generic face wash with liking for a set of Bic highlighters. We purposely chose a *generic, nonbranded* face wash against *branded* highlighters to provide a more conservative test since branded products are generally liked more than nonbranded ones, and thus if participants who were reminded of casual sex preferred the face wash, this should not be because of a desire of branded products but

from their physical feelings of dirtiness (Study 1) and their greater desire to cleanse themselves (Study 2).

4.1 | Methods

We recruited 548 participants from Mechanical Turk ($M_{age} = 38.6$ years old; 207 men and 341 women). We did not assess participants' education levels, marital status, and employment status in this study.

As experimental manipulations, we simply asked people to write a short story that involved a romantic encounter between two individuals that lead to casual sex, or one that also involved a romantic encounter but a long-term, committed relationship. We also asked them to use the third person to provide a conservative test of our hypothesis, not relying on imagination exercises that involved the self. This was not an imagination exercise like Studies 1 and 2 but a task ostensibly for a study on fiction. Participants on average spent about 10 min on this task, writing about 400 words or so on average.

Then, all participants indicated how much they would pay for a generic face scrub (personal hygiene product) and a 12-pack of Bic highlighters (control product) using the same method as before, showing the image without a price tag or accompanying. We note that we measured participants' willingness to pay (WTP), not general preference here. They indicated their willingness to pay for both items using separate scales that ranged from 1 = "\$1" to 9 = "\$9" in \$1 increments. The two items were presented in a random order across all participants. They all finally completed the BSAS, which included statements such as "One-night stands are sometimes very enjoyable," to which they all responded on separate 9-point scales ranging from 1 = "Strongly Disagree" to 9 = "Strongly Agree."

We measured regulatory focus (Lockwood, Jordan, & Kunda, 2002) as a pretest for another study, but we did not find any difference between the casual sex and committed love conditions on either the promotion ($\alpha = 0.93$; $p = 0.36$) or prevention subscale ($\alpha = 0.79$; $p = 0.55$). Thus, we will not refer to regulatory focus again in this study write-up. We note, however, that this scale was included at the *end* of this study.

According to our sensitivity power analysis on G*Power, the sample size could test an effect size of $f = 0.11$ at the $\alpha = 0.05$ and a 0.80 power levels. We did not assess other variables in the study. We did not analyze data before data collection finished. No further data was collected after data analysis.

4.2 | Results

We first averaged participants' responses on the BSAS ($\alpha = 0.87$), such that higher scores meant that casual sex was less impure or more acceptable. After, we conducted two multiple regression analyses, with experimental condition (1 = *casual sex*, 0 = *love*), scores on BSAS, and the two-way interaction as independent variables. In the first analysis, WTP for the face scrub was the dependent variable. Then, in the second analysis, WTP for the highlighters was the dependent variable.

4.2.1 | WTP for face scrub

A regression analysis on participants' WTP for the face scrub revealed that casual sex elicited greater WTP than the love one ($\beta = 0.52$, standard error [SE] = 0.22, $t = 2.34$, $p = 0.02$), which replicates our overall main effect from Studies 1 and 2. Higher scores on the BSAS reduced WTP ($\beta = -0.70$, SE = 0.22, $t = 3.18$, $p < 0.001$), which is also consistent with how more negative attitudes toward casual sex should raise preference for personal hygiene products. The interaction was significant ($\beta = -0.95$, SE = 0.44, $t = 2.14$, $p = 0.04$). At -1 SD on the BSAS (more negative attitudes), the casual sex condition elicited a greater WTP than the love one ($\beta = 0.99$, SE = 0.31, $t = 3.13$, $p < 0.001$). At $+1$ SD (more positive attitudes), there was no change in WTP between those in casual sex and love conditions ($p = 0.17$).

4.2.2 | WTP for highlighters

A second regression analysis on WTP for the set of highlighters revealed that the casual sex condition elicited no difference in WTP compared with the committed partners one ($p = 0.62$). Moreover, higher scores on the BSAS did not affect participants' WTP ($p = 0.86$). The interaction was also not significant ($p = 0.78$).

4.3 | Discussion

We find that individual-level differences in attitudes toward casual sex moderate our effect. Namely, individuals with more negative attitudes (lower scores on the BSAS) are more likely to pursue personal hygiene products when reminded of casual sex, consistent with how they should feel more dirty or impure (Study 1) and to want to clean themselves more so (Study 2). The findings are replicates of Studies 1 and 2 that looked at population-level differences such as political conservatism and religiosity. This final study is also useful as it shows that reminders of casual sex only affect WTP for personal hygiene but not other products. Lastly, we examine participants' WTP for products rather than a self-reported attitudinal measure, as in Studies 1 and 2. Regardless of, we find converging evidence for our hypothesis.

5 | GENERAL DISCUSSION

In three studies, we obtain evidence that everyday sayings associating casual sex with contamination, impurity, or dirt can be embodied—in that reminders of casual sex can lead one to physically feel dirtier, motivating them to seek out consumer products that would help them physically cleanse themselves. Crucially, though, we show that the effect is moderated by one's attitudes toward casual sex. The more negative the attitude, the greater the effect. Study 1 shows the effect with political conservatism, Study 2 shows the effect with religiosity, and lastly, Study 3 reports the effect at the individual level with such attitudes measured directly. The effect is also limited to personal hygiene products and not other products generally (Study 3). We also use two different ways to remind individuals of casual sex (visual exercises in Studies 1 and 2, fiction writing in Study 3). Yet, we consistently obtained our posited effect.

5.1 | Theoretical contributions

Our research offers several contributions. First, we contribute to the embodied cognition literature, this time within the marketing context. We are the first to that show sex and sexuality can be embodied. Specifically, we show that mere reminders of casual sex can lead people to feel dirtier. Such a finding is important. Marketing, and advertising in particular, has mainly focused on sexual stimuli in marketing promotions and how that might affect myriad behaviors (Ariely & Loewenstein, 2006; Chan, 2015; van den Bergh et al., 2008; Wilson & Daly, 1985). We focus on reminders of casual sex, which are also prevalent. Indeed, even marketers who may not explicitly use sexual stimuli in promotions might remind target consumers or audience of casual sex. These reminders we show can lead to embodiment and affect product choice. And because reminders of casual sex abound even outside of marketing contexts, we find that a common type of discourse in everyday life can affect consumption behavior. Marketers may not be able to control discourse in daily life, but nonetheless, they affect consumption choices.

Second, we add to the embodied cognition literature in another way. We posit that there would be a moderator for our proposed effect based on individuals' attitudes toward casual sex. Interestingly, extant research on embodied cognition has largely not explored the moderators of the effect. Some moderators *do* exist, certainly. For example, Elder and Krishna (2011) posited that visual depictions in ad copy that are fluent (e.g., placing a fork on the right-hand side of cake for right-handed viewers) are more likely embodied. But arguably, more research is necessary to better understand the conditions for embodied cognition to arise. We show this—at least in our context of embodiment of sexual constructs—with both population- and individual-level proxies of individuals' attitudes toward casual sex.

Third, we also add to the literature on sex and sexuality. In particular, prior work on conservatism's and religiosity's effects on attitudes toward these topics have largely focused on homosexuality or sex roles (Burdette et al., 2009; Haidt & Hersh, 2001; Hodson &

Costello, 2007; Johnson et al., 1997; Larsen & Long, 1988; Rosik et al., 2007; Rozin et al., 1999). We find that these population-level characteristics also affect attitudes toward casual sex. Indeed, since casual sexual relations are conducted outside of committed, monogamous relationships (Cubbins & Taner, 2000; Fisher & Byrne, 1978; Paul et al., 2000; Simpson & Gangestad, 1992), they can “go” against how conservatives and religious individuals see what is “proper,” “appropriate,” or even “moral.”

5.2 | Managerial implications

There are also practical managerial implications of our work. Perhaps intuitively, our findings suggest that reminders of casual sex might facilitate the sale of products for personal hygiene purposes. Thus, marketers of these products may consider using such imagery in their advertising, although certainly their use would also need to be regulated by policy officials. But beyond this, we believe our effect would be of interest to marketers more generally—even for those in other product categories or industries. Indeed, we only use personal hygiene products as a practical context. We fundamentally show that reminders of casual sex can be embodied, with individuals feeling physically dirtier. Such feelings of contamination might motivate individuals to avoid touching with products that appear dirtier (cf. Argo, Dahl, & Morales, 2006; Morales & Fitzsimons, 2007). Indeed, if one feels dirty (Study 1) and wants to clean themselves (Study 2), then it is natural that they might avoid products that appear dirty themselves. Even money could be “used” to a significant degree and thus appear dirty or contaminated (Di Muro & Noseworthy, 2012). Though we relegate our focus to personal hygiene products and to dirty products or even money, our findings do imply that reminders of casual sex might affect broader attitudes beyond products that cleanse oneself.

For marketers, our findings also insinuate another way in which sex might “sell”—at least for some products. Previous work suggests that sex, such as that in advertising, captures consumers’ interest and is a rewarding or appetitive stimuli. We show that casual sex, namely, might be embodied, providing new research avenues on sex and sexuality in marketing contexts. Prior work in embodiment suggests that it may be motor-specific. For example, telling lies might motivate one to wash their mouths, but typing a lie in an e-mail might motivate the same person to wash their hands (Lee & Schwarz, 2010). We so far focused on the embodiment of casual sex more generally, but it is conceivable that reminders or mentions of specific body parts within the context of casual sex could lead to feelings of dirtiness specific to one part of the body that might then affect the purchase of products that clean a particular part of the body. This can offer myriad implications for the marketing of even other nonhygiene products and to an understanding of how a prevalent reminder in everyday discourse might shape consumers’ behaviors that would predict product choices.

More broadly, the roles of embodiment and sensory perceptions in marketing are still relatively new phenomena (Krishna & Schwarz,

2014). At the least, there are still many areas worth pursuing. Consumers’ physical experiences can shape their choices and judgment. And as well, abstract representations can shape their physical experiences, as we observe in the present inquiry. And by documenting moderators for the effect at the population and individual levels, it is our hope that marketers can design communications and position products that better appeal to certain segments.

5.3 | Limitations and future work

However, we are cognizant of several limitations. First, although we examine participants’ attitudes toward casual sex via a validated measure (viz., the BSAS) and of course population-level variables such as political ideology and religiosity, our manipulations of casual sex could be considered quite conscious, having participants actively visualize casual sex or write about it. We suspect that our effect would still arise with “under-the-radar” exposure, in which individuals might not be consciously aware of what is being primed. Indeed, although it is controversial, subtle cues can prime and change behavior (Harris, Coburn, Rohrer, & Pashler, 2013). As such, it would be interesting to replicate our work with more subtle reminders of casual sex to see if they would also be embodied and affect product choices.

Similarly, we focused on conservatives and religious, but there are likely moderators of other sorts as well. For instance, members of collectivistic cultures tend to be more conservative, they might also be more likely to feel dirtier and buy personal hygiene products when reminded of casual sex. However, we note that we have no evidence to support this premise, although it is reasonable given links between conservatism and collectivistic cultures. Relatedly, it would be interesting to ascertain boundary conditions for our effects. Even for conservatives, the religious, and even collectivistic individuals, under what circumstances might they not exhibit our effects? Conservatism and religiosity, in particular, are connected to disgust (Hodson & Costello, 2007; Rozin et al., 1999), which suggests that disgust could moderate the effect. Perhaps when disgust is low, conservatives and religious individuals will exhibit a pattern of results that would be more consistent with liberals or less religious individuals? Perhaps time pressure influences the effect (Chan & Saqib, 2013). Recognizing boundary conditions would offer theoretical insights into the drivers of our theorized effect and offer marketers or managers better predictive powers.

And as mentioned above, embodiment might be body part-specific (Lee & Schwarz, 2012). We focus on reminders of casual sex that are nonbody part-specific, finding that such reminders affect the purchase of a variety of personal hygiene products. Future work could test the possibility that feeling dirty in a specific part of the body might motivate preference for some products that clean that body part but not others that do not. While this is conceivable based on Lee and Schwarz’s (2012) findings, we note that the sensorimotor experiences of embodiment are still not well-understood, and not

much work on this exists. This is to say that more research is needed to show that embodied cognition exists for specific parts of the body but not others. For example, an explicit mention of kissing with a stranger or in a casual manner might conceivably prompt people to purchase mouthwash.

We hope that our work will not only document a new type of embodiment, but also suggest intriguing implications for research and practice at the intersections of sex, sexuality, embodiment, and marketing. There are questions that are not addressed and worth pursuing, but we show how sex—in particular, casual sex—may be embodied, affecting product choices in personal hygiene and perhaps other categories. The effect is moderated by attitudes about casual sex, providing a tool for marketers to segment consumers when they use casual sex reminders or relevant product categories.

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APPENDIX A

STUDY 1: COLGATE TOOTHPASTE LIKING

Though the visual imagination exercises were taken from established research (Förster et al., 2009), we conducted a pretest to ensure its validity in our current work. We recruited 100 MTurkers ($M_{\text{age}} = 38.98$ years old; 89 men and 111 women). We randomly assigned them to either the casual sex, love, or control condition as in the main study. Participants were then asked how “difficult” the task was (1 = “Not Difficult at All,” 9 = “Extremely Difficult”). There was no difference across the three conditions ($p = 0.21$). They also completed a brief mood check (1 = “Sad/Negative/Bad/Excited,” 9 = “Happy/Positive/Good/Calm”). Averaging across the first three mood items ($\alpha = 0.94$), we found no difference in mood across the three conditions ($p = 0.34$). But, there was a difference in “excitement.” Participants in the casual sex condition scored higher ($M = 7.11$, $SD = 1.23$) than those in the love ($M = 5.89$, $SD = 1.43$), $t(65) = 3.74$, $p < 0.001$, $d = 0.91$, and those in the control conditions ($M = 6.11$, $SD = 1.09$), $t(65) = 3.51$, $p < 0.01$, $d = 0.86$. The lack of effects of visual imagination on difficulty and mood are consistent with Förster et al. (2009) who also reported no such effects (their Study 1).