Look Good and Work Hard? Only if You are a Man or in Preschool

Michal Maimaran  
Northwestern University

Anastasiya Pocheptsova Ghosh  
University of Arizona

Aparna A. Labroo  
Northwestern University

Michal Maimaran (m-maimaran@kellogg.northwestern.edu) is a Research Associate Professor of Marketing, Kellogg School of Management, Northwestern University, 2211 Campus Drive, Evanston, IL, 60208. Anastasiya Pocheptsova Ghosh (Anastasiya@email.arizona.edu) is an Assistant Professor of Marketing, Eller College of Management, University of Arizona, 1130 E. Helen. Street, Tucson, AZ, 85721. Aparna A. Labroo (a-labroo@kellogg.northwestern.edu) is a Professor of Marketing, Kellogg School of Management, Northwestern University, 2211 Campus Drive, Evanston, IL, 60208. The authors thank the children of the McGaw YMCA Children’s Center, Evanston, IL, for participating in this research, the staff of the children’s center for their help and support, and Erin Dierker and Sowa Imoisili for their help in collecting data at the children’s center.
ABSTRACT

Consumers believe that attractive women are less intelligent. We theorize feeling attractive can cue such beliefs and women treat these beliefs as self-diagnostic, becoming less motivated to pursue cognitive tasks. We first establish that adults, but not children, hold such beliefs. Then across four studies we show feeling attractive reduces motivation to work on cognitive tasks among women (for whom accessible beliefs are self-diagnostic), but not men (for whom accessible beliefs are non-diagnostic) or preschoolers (among whom such beliefs are not accessible). Women (but not men) feeling attractive after trying on attractive clothes, or thinking about an attractive selfie, are less motivated to pursue a cognitive task. Further, women (but not men) feeling unattractive after viewing a body-shaming advertisement are more motivated to pursue a cognitive task. Finally, preschoolers, feeling attractive after being complimented are more motivated to pursue a cognitive task. We discuss implications for consumer welfare. (148 words)

Keywords: Gender, Beliefs, Motivation, Children
In an image-obsessed society, consumers can find it easier than ever to have their self-esteem destroyed. From body-shaming advertisements, to social media feedback on incessant self-immortalization selfies, to preening in form fitting clothing, consumers can be left feeling attractive or unattractive within moments. This research examines whether feeling attractive or unattractive due to such marketplace actions can affect consumer motivation to pursue cognitive tasks. On the one hand, research shows feeling attractive can lead to general good feeling about oneself, whereas feeling unattractive can decrease self-esteem. Consumers are more confident and optimistic about their abilities when they feel good about themselves. As a result, they take on more challenging cognitive tasks (Fishbach and Labroo, 2007). On the other hand, a common stereotype is attractiveness and intelligence are negatively correlated, particularly for women (Heilman, Wallen, Fuchs, and Tamkins, 2004; Lewis, Easton, Goetz, and Buss, 2012; Schneider, Tinsley, Cheldelin, and Amanatullah, 2010). Attractive women are frequently portrayed as unintelligent “objects of desire” in pop-culture, media (Gill, 2007), folk humor, comics (e.g., Archie), and TV shows (e.g., 30 Rock). These marketer portrayals further strengthen societal beliefs that attractive women are unintelligent. Moreover, salience of adverse beliefs about one’s social group can evoke stereotype threat, which diminishes confidence and hurts performance (Spencer, Steele, and Quinn, 1999; Steele, 1997). For instance, African-Americans were found to perform worse on cognitive tasks after the belief that they are poor at such tasks was made accessible to them. The salience of the attractive-is-unintelligent belief similarly could diminish cognitive pursuits among women, but not men, if women consider these beliefs as self-diagnostic. Furthermore, merely feeling attractive or unattractive could make such beliefs salient and result in these downstream consequences such as reduced cognitive pursuits.

Beliefs arise when consumers observe specific co-occurrences of events and overgeneralize them as representations of reality by assigning undue causality (Gilbert, Krull, and Malone, 1990; Gilbert, 1991). For instance, observations of fewer women than men pursuing science careers could create beliefs that women are not talented in science. Furthermore, consumers act in accordance with beliefs that are perceived as self-diagnostic (Cesario, Plaks, and Higgins, 2006; Cesario et al., 2010; Job, Dweck, and Walton, 2010; Job, Walton, Bernecker, and Dweck, 2015, Srull and Wyer, 1979). Acting on beliefs further substantiates them (Hansen et al., 2014; Lord, Ross, and Lepper, 1979; Uhlmann and Cohen, 2007). For instance, women may avoid science careers, propagating the belief they are scientifically ungifted.
 Similarly, media portrayals could substantiate a belief attractive women are unintelligent, even though most consumers consider both attractiveness and intelligence as important traits (Fiske, Cuddy, Glick, and Xu, 2002; Fiske, Cuddy, and Glick, 2007). Factors that increase accessibility of such beliefs could impair cognitive pursuits among women, as these beliefs could be perceived as self-diagnostic by them. How attractive (or unattractive) a person feels—whether from shopping for attractiveness-enhancing products, posting a selfie on social media, viewing body-perfect ads, or being complimented on one’s appearance—could be an important, highly pervasive but not yet investigated factor to raise accessibility of such beliefs. When feeling attractive, women thus may place a greater weight on being attractive, and reduce cognitive pursuits. By contrast, feeling unattractive, women may place a lower weight on being attractive, and boost cognitive pursuits. Since men are generally not subject to this belief, the belief should not be perceived as self-diagnostic to the same extent by them, and while feeling attractive could cue this belief it should not adversely affect their cognitive pursuits.

An important precursor to beliefs impacting cognitive pursuits is existence or availability of such beliefs to begin with (Devine, 1989; Fitzsimons and Shiv, 2001; Folkes, 1988; Higgins, 1989; Menon and Raghubir, 2003; Menon, Raghubir, and Schwarz, 1995). Young children, boys and girls, are unlikely to hold a belief that attractive women are less intelligent. While young children do stereotype based on gender and race (Bigler and Liben, 2006), and may behave according to these stereotypes in choice of toys or activities (e.g., Coyne et al., 2016; Serbin et al., 2001), more complex beliefs, including that attractive women are less intelligent are likely to develop only later. Such beliefs require compensatory thinking—the ability to make trade-offs and infer more of one attribute implies less of another—a skill that develops around age 7 (Inhelder and Piaget, 1969; Stone, Brown, and Jewell, 2015). Four-and five-year olds instead tend to classify objects as good or bad and show little compensatory thinking (Flavell, 1963; Ginsburg and Opper, 1988; Scholnick, Nelson, Gelman, and Miller, 1999). Furthermore, if the belief that attractive women are less intelligent develops over time from media portrayals, as we postulate, then children this age are less likely to consume and understand such media. Feeling attractive should reduce cognitive pursuit only when these beliefs are available, and therefore can become accessible by merely feeling attractive; i.e., among adult women but not young girls.

Notably, research shows age predicts endorsement of the “sexualized-not-intelligent” stereotype. Children ages 9-11 judge sexualized (vs. non-sexualized) girls as less intelligent.
Furthermore, middle school girls (ages 11-15) who score higher on the internalized sexualization scale earn lower grades in school, spend more time on appearance-focused behaviors such as applying make-up and fixing hair, and less time on competence-related behaviors such as reading and learning the assigned text (McKenney and Bigler, 2014; 2016). Importantly, sexualization and attractiveness are not the same constructs, though they are often related and the media portrays sexualized girls as more attractive (Herbozo, Tantleff-Dunn, Gokee-Larose, and Thompson, 2004). Our focus is on marketing stimuli that increase feeling attractive (or unattractive) and not on sexualization. Given this distinction, testing whether motivation to pursue cognitive activities among young children, especially young girls, is impacted in the way we predict it for adult women remains an empirical question. That merely feeling attractive (vs. not) could bring about such effects also remains an important, open question.

Furthermore, even when considering the “sexualized-not-intelligent” stereotype, research shows children ages 6-8 do not tend to endorse this stereotype (Stone et al., 2015). These findings suggest that younger children are unlikely to hold the “attractive = unintelligent” stereotype. If this belief is not cognitively available among young children because it has not been formed in their minds, then feeling attractive (vs. not) would not hurt motivation to pursue cognitive tasks among young girls. Looking at this population thus allows us to test our model and the role availability of such beliefs plays in allowing feeling attractive (vs. not) to cue such beliefs and increase their applicability among females who might consider such beliefs to be self-diagnostic. In our research, we therefore look at a younger age group, 4-5 years, as a boundary condition for our hypothesized effect, and because of the importance of understanding the development of these beliefs from a young age (Bussey and Bandura, 1999; Star and Ferguson, 2012). As noted previously, feeling attractive can lead to general good feeling about oneself, which increases cognitive pursuits (Fishbach and Labroo, 2007). If 4-5 year olds do not hold the attractive-is-unintelligent belief, then when they feel attractive, we expect them to increase cognitive pursuits. Only for adults, who hold these beliefs, we expect feeling attractive to increase belief accessibility. Furthermore, we expect belief accessibility will reduce cognitive pursuits only when the beliefs are perceived as self-diagnostic, i.e., among women but not men.

We report four studies and two pretests (in the Web Appendix) testing this framework (Figure 1). The two pretests (Web Appendix) first show that adults indeed believe that attractive women, but not men, are less intelligent, but children do not hold this belief. In study 1 we then
demonstrate the basic effect—that feeling more (vs. less) attractive decreases women’s motivation to work on a cognitive task—using a subtle marketplace action of trying on clothing as our manipulation. In study 2, we show feeling attractive after considering an attractive selfie similarly decreases motivation to pursue a cognitive task among women but not men. Together, the data suggest feeling attractive cues the “attractive is unintelligent” belief that affects cognitive motivation among women, for whom the belief can be considered as self-diagnostic. In study 3, we consider consequences of body-shaming advertisements and show the converse that feeling unattractive instead increases motivation to pursue a cognitive task. Importantly, across studies 1-3, we find these effects are motivation rather than ability-based. Finally, to implicate a role of belief availability in impacting motivation, in study 4 we show an important boundary condition: when 4-5 year old children (who do not hold such beliefs) feel attractive, their motivation to work on an age-compatible cognitive task increases.

Figure 1: Motivation as a Function of Feeling Attractive, Belief Availability and Diagnosticity

**Pretest 1: Adults Believe Attractive Women, But not Men, are Less Intelligent**

In a pretest ($N = 274$), we first confirmed that adults hold the belief that attractive women (but not men) are less intelligent and also that such beliefs are perceived as more self-diagnostic for women than for men (see Web Appendix A for complete details). First, reflecting availability of such beliefs, we found adults endorsed the belief that attractive women are less intelligent more strongly than they endorsed the belief that attractive men are less intelligent ($p < .001$). Furthermore, women participants endorsed these differential beliefs more strongly than men participants did ($p < .001$). Stronger endorsement of these differential beliefs regarding attractiveness and intelligence of women versus men by women participants is consistent with
the beliefs being more accessible in the minds of women participants because they see them as more self-diagnostic. Self-diagnostic information is typically endorsed more strongly and is more accessible in minds of consumers. Finally, reflecting that these beliefs are indeed seen as more diagnostic for women, when asked for whom it is more important to be attractive versus intelligent, all participants, regardless of own gender, indicated it was more important for women than men ($p < .001$).

**Pretest 2: Children Believe Attractive People, Women and Men, Are More Intelligent**

In a second pretest ($N = 41$), we confirmed that young children (preschoolers 4-5 year olds) associate more attractive people, men and women, instead with being more intelligent (see Web Appendix B for complete details). Using age-appropriate stimuli and methodology to probe the kinds of associations preschoolers may have about the relationship between a person’s attractiveness and intelligence, experimenter presented each child individually with pictures of a pair of girls or a pair of boys. The experimenter first probed which of the two girls (boys) looked more attractive, and then probed which of the two girls (boys) is more intelligent because she (he) knows her (his) ABCs (order counterbalanced). Regardless of gender of the participant or the target that was presented, children were more likely to indicate that the model who looks more attractive also knows her ABCs ($p = .019$) or his ABCs ($p = .086$).

These pretests thus established that (a) among adults, both men and women believe that attractiveness is inversely correlated with intelligence more so for women than for men, (b) women endorse this belief more strongly than men do, which is consistent with a possibility that this belief is also more self-diagnostic to them as self-diagnostic beliefs typically are more accessible as well, (c) both men and women perceive this belief about inverse association between attractiveness and intelligence to be more diagnostic to women, and (d) young children do not hold a belief that attractive women are less intelligent, to the contrary they associate attractive people, men and women, with more intelligence. We now turn to investigating our core propositions that (a) women, but not men, will be less motivated to pursue cognitive tasks when they are feeling attractive, because merely feeling attractive can make these self-diagnostic beliefs accessible to women, and (b) young girls will not show similar effects because they do not have negative beliefs about attractiveness and intelligence of women.
Study 1: Feeling Attractive Decreases Cognitive Pursuits among Women

In study 1, we investigate how feeling attractive impacts cognitive pursuits among adult women. If merely feeling attractive increases accessibility of the “attractive women are less intelligent” belief and women consider this belief to be self-diagnostic, then women will be less motivated to pursue cognitive tasks, when feeling attractive. We employ a subtle but naturalistic manipulation of feeling attractive—trying on clothes—and measure motivation to pursue a cognitive task using a real behavioral dependent variable.

Method

Fifty female undergraduate students completed this experiment individually for course credit in the presence of a male experimenter. The choice of a male experimenter was intentional, to increase attractiveness concerns among our women sample. Upon arrival at the lab, the experimenter instructed participants that the experiment involved an evaluation of a university-branded sweatshirt. The experimenter then asked each participant to put on a sweatshirt (with tags removed) in front of a mirror. Unbeknownst to participants, we randomly assigned them to one of two conditions: a feeling more-attractive condition, in which they tried on a sweatshirt in their correct size in front of the mirror, or a feeling less-attractive condition, in which they tried on a sweatshirt one size too small or too large. Participants kept the sweatshirt on for five minutes to simulate a real wearing experience, while completing an allegedly “unrelated” experiment, before providing product-evaluations in line with the cover story. This “unrelated” experiment provided our key dependent variable, namely, motivation to pursue a cognitive task.

During the cognitive task, participants sat at a desk away from the mirror but still wearing the sweatshirt, and were asked to solve as many anagrams (out of eight) as they could (see Web Appendix C for stimuli). Once they finished the self-paced task, participants completed a product-evaluation survey in line with the cover story, in which they rated the sweatshirt on different dimensions, such as quality and comfort. As control measures, participants also reported self-confidence and mood (see Web Appendix C for measures). We collected these measures because better-fitting clothes could potentially enhance confidence or mood (Solomon and Schopler, 1982). Notably, these factors should improve cognitive pursuits (Fishbach and
Labroo, 2007) and not reduce it, as we predict. Funnel debriefing revealed no participant correctly guessed the purpose of the experiment.

**Results and Discussion**

Consistent with our predictions, we found that participants in the feel more attractive condition attempted to solve *fewer* anagrams than those in the feel less attractive condition ($M_{more-attractive} = 5.23$, SD = 2.77; $M_{less-attractive} = 6.74$, SD = 1.89; $t(46) = 2.153$, $p = .037$). There were no differences between those who wore one size smaller ($M = 6.58$, SD = 2.02) or one size larger ($M = 7.09$, SD = 1.64; $p > .525$).

To tease apart ability from motivation, we coded each anagram for correctness (1 = correct, 0 = incorrect/no solution), summed these scores for each participant, and calculated percentage-correct by dividing number of correct anagrams by number of attempted. If feeling attractive reduced participants’ ability to solve anagrams, we should expect lower percentage of anagrams solved in the more-attractive than the less-attractive condition. We find no such difference between the two conditions ($M_{more-attractive} = 80.5\%$, $M_{less-attractive} = 80.9\%$, $p > .969$), indicating that feeling attractive did not reduce participants’ ability but rather decreased their motivation to engage in the cognitive task. Finally, the attractiveness manipulation did not affect any of the control variables (mood, confidence; $p > .130$) and none of them had a significant effect on anagrams attempted or percent of anagrams correctly solved ($p > .369$). This evidence gives confidence that feeling attractive reduced cognitive pursuits because of beliefs rather than other factors.

Thus, using an ecologically valid manipulation of attractiveness, we show women who feel more attractive are less motivated to work on a cognitive task. The effect emerged using a subtle manipulation of clothing size. These results also provide an important boundary condition to the mood and confidence literatures by showing feeling attractive, which typically should improve mood, can reduce rather than increase cognitive pursuits among women.

**Study 2: Feeling Attractive Decreases Intelligence Pursuits among Women but not Men**

---

1 Data of two participants was discarded because the assistant failed to record their sweatshirt size.
Study 1 included only women and investigated the effects of feeling more (vs. less) attractive on cognitive pursuits. Building on it, study 2 included also men and investigated whether the effect of feeling attractive (vs. not) on cognitive pursuits arises for women but not men. We also used a different manipulation of feeling attractive.

**Method**

Six hundred and twelve adults (mean: 32.05 years, 53.3% women)² from Prolific online panel were randomly assigned to a feeling-attractive or a control condition. Participants assigned to the feeling-attractive condition were asked to describe an attractive selfie, including what the picture shows, how attractive they look and how they feel about themselves in that picture. Control participants instead described how to make a cup of tea.

We then directed participants to a second, allegedly different, experiment, described as a test of their cognitive abilities. Participants were to find as many of 14 words hidden within a word-search matrix in two minutes (see Web Appendix D for stimuli), but they had the option to bypass this task and simply wait to advance to the next study. Participants were instructed that they could work as much or as little as they wanted for two minutes on this cognitive task and would be automatically moved to the next study after two minutes. To insure we measured participants’ motivation, the instructions said: “You can choose not to work on it at all or work as little as you like.” Our main dependent measure was how many words participants attempted to find in the puzzle.

Next, we measured participants’ beliefs in the association between attractiveness and intelligence (presented in random order): “I think in general, people often assume that attractive women are less intelligent” and “I think in general, people often assume that attractive men are less intelligent” (1 = strongly disagree, 7 = strongly agree). To reduce socially desirable responding, and as is common in similar research, we framed this question as asking about other people rather than the respondent specifically. Finally, we measured participants mood (happy, sad; 1 = not at all, 7 = very much; r = .414), age and gender.

**Results and Discussion**

² Twelve participants did not indicate their gender and two participants did not complete the manipulation thus could not be included in the analysis, resulting in a sample of 598 participants.
Mood. Attractiveness, gender, and their interaction did not impact mood ($p < .277$).

Strength of Beliefs. A 2 (condition: selfie vs. control) $\times$ 2 (participant gender: male vs. female) $\times$ 2 (target of belief: women vs. men) repeated-measures ANOVA on strength of beliefs revealed a significant main effect of target of belief ($F(1, 593) = 236.003, p < .001$). Replicating results of pretest 1, participants endorsed the belief that attractive people are less intelligent more to women than men ($M_{target=women} = 4.66$, $SD = 1.53$ vs. $M_{target=men} = 3.66$, $SD = 1.55$). We also find significant effect of participant gender ($F(1, 593) = 6.119, p = .014$), qualified by an interaction between participant gender and target of belief ($F(1, 593) = 11.222, p = .001$). Men and women endorsed the belief that attractive women are less intelligent equally ($M_{men} = 4.69$, $SD = 1.46$ vs. $M_{women} = 4.63$, $SD = 1.59$; $F(1, 593) = .182, p > .623$) suggesting this belief is highly accessible to both genders. However, men endorsed belief that attractive men are less intelligent more strongly than women did ($M_{men} = 3.92$, $SD = 1.49$ vs. $M_{women} = 3.44$, $SD = 1.56$; $F(1, 593) = 14.642, p < .001$), suggesting this belief is less accessible to women. Finally, feeling attractive increased belief strength directionally ($M_{selfie} = 4.26$, $SD = 1.31$ vs. $M_{control} = 4.09$, $SD = 1.31$; $F(1, 593) = 2.664, p = .103$), in line with our position that feeling attractive (vs. not) increases belief accessibility.

Cognitive Pursuit. We expect that feeling attractive (vs. not) will reduce motivation to pursue the cognitive task among women but not men. A 2 (condition: selfie vs. control) $\times$ 2 (participant gender: male vs. female) ANOVA on number of words searched revealed a main effect of participant gender ($F(1, 594) = 8.604, p = .003$); women attempted more searches than men which suggests women are generally more conscientious on such tasks than men ($M_{women} = 1.94$, $SD = 1.45$ vs. $M_{men} = 1.55$, $SD = 1.70$). A predicted (marginal) interaction also emerged ($F(1, 594) = 3.085, p = .080$): feeling attractive (vs. not) did not impact word search among men ($M_{selfie} = 1.61$, $SD = 1.97$ vs. $M_{control} = 1.49$, $SD = 1.41$, $t(594) = .810, p > .418$), but reduced word search among women ($M_{selfie} = 1.76$, $SD = 1.39$ vs. $M_{control} = 2.09$, $SD = 1.48$, $t(594) = 3.411, p = .001$; Figure 2).

---

3 One participant did not answer one of the belief questions, and thus the data could not be included.
4 Recall that pretest 1 showed women compared to men endorse more strongly the belief attractive women are less intelligent. This study instead shows both genders strongly endorse the belief about women, but men endorse belief about men more than women do. This difference might arise because unlike pretest 1, here: (a) half our sample was feeling attractive, which likely increased accessibility of beliefs, and (b) these measures were taken at the end of the study and likely impacted by differential task pursuit by women vs. men.
5 The mediation with belief strength was not significant presumably because the measure correlates with but does not adequately isolate an effect of belief accessibility.
As in study 1, we distinguished motivation from ability by looking at percentage of correctly found words within attempted words. We expect that if feeling attractive reduced women’s word-search ability, we should observe lower percentage of correct word-searches in the selfie than the control condition by women but not by men. We find no effect of gender, condition, or their interaction on percentage of correct word-searches ($M_{women} = 94.3\%$ vs. $M_{men} = 94.2\%$ and $M_{selfie} = 93.5\%$ vs. $M_{control} = 94.9\%$, $ps > .448$), suggesting that feeling attractive did not reduce cognitive ability but rather decreased motivation to engage in the task.

Study 2 thus replicated pretest 1 and showed that women and men both endorse the belief that attractive people are less intelligent more strongly for women rather than men. Study 2 also replicated findings of study 1 showing that feeling attractive reduces cognitive pursuits among women. Additionally these effects are not observed for men. Taken together, these results support our argument that (a) adults believe that attractive women are less intelligent, (b) women feeling attractive (vs. not), but not men, reduce motivation to pursue cognitive tasks, suggesting feeling attractive makes these beliefs accessible and because they are self-diagnostic for women their cognitive pursuits are impacted accordingly. We also employ another realistic manipulation of feeling attractive that is common in the marketplace—thinking about an attractive selfie.

**Study 3: Feeling Unattractive Increases Intelligence Pursuits among Women but not Men**
Studies 1 and 2 investigated the effects of feeling attractive on cognitive pursuits. Conversely, study 3 investigated whether feeling *unattractive* (vs. not) increases motivation to pursue cognitive tasks, among women but not men. We also employed a body-shaming advertisement to investigate the effect of such media portrayals on cognitive pursuits.

**Method**

Two hundred ninety-eight adults\(^6\) (age range: 18–74 years\(^7\), 43.4% women) from MTurk were randomly assigned to a feeling-unattractive or a control condition. Participants assigned to the feeling-unattractive condition saw an advertisement advocating extreme body standards as attractive. To control for matching effects of participants' gender and gender depicted in the advertisement, we counterbalanced whether participants viewed a female or a male model in the advertisement. Adapted from real advertisements, both advertisement portrayed attractive, toned targets, the female in a bikini and the male without a shirt (see Figure 3A and Web Appendix E for stimuli). Participants also wrote a paragraph describing how their body compared to the model in the advertisement. Control participants, as in study 2, did not see either ad and instead described how to make a cup of tea.

![Figure 3A: Stimuli used in Study 3](image)

\(6\) Seventeen participants did not provide their gender and are thus their data could not be included for analysis, resulting in a sample of 281 for all analysis.

\(7\) Age distribution was as follows: 16.3% of the sample belonged to 18-24 age group; 43.1% to 25-34 age group; 20.5% to 35-44 age group; 12.4% to 45-54 age group; and 7.8% to 54-74.
We then thanked participants and directed them to a second, allegedly different, experiment, described as a test of their cognitive abilities. We used the same word search task as in study 2, and again used the number of words participants attempted to find as our main dependent measure. Finally, participants provided their age and gender.

**Results and Discussion**

We expect exposure to a body-shaming advertisement to increase motivation to pursue the cognitive task among women, but not among men. A 2 (participant gender: male vs. female) × 3 (condition: control, man ad, and woman ad) ANOVA on number of attempted word-searches revealed an effect of gender ($F(1, 275) = 4.075, p = .044$); women attempted more searches ($M = 1.83, SD = 1.31$) than men ($M = 1.62, SD = 1.32$). Importantly, a significant interaction emerged ($F(1, 275) = 3.983, p = .020$). As we predicted, women exposed to a body-shaming advertisement featuring a female model exhibited higher motivation to pursue the cognitive task ($M_{\text{woman-ad}} = 2.15, SD = 1.48$ vs. $M_{\text{control}} = 1.63, SD = 27, t(275) = 1.861, p = .064$). The woman ad is likely to make women feel unattractive if women compare with the attractive model and fall short, and feeling unattractive is likely to also cue the belief that attractive women are less intelligent. If feeling unattractive increases inference they must be intelligent, this in turn may increase motivation for cognitive pursuits. To our surprise, among men, viewing the female ad (vs. not) decreased cognitive pursuit ($M_{\text{woman-ad}} = 1.22, SD = 1.08$ vs. $M_{\text{control}} = 1.78, SD = 1.42, t(275) = 2.144, p = .033$), possibly because they were distracted. As we expected, viewing a body-shaming ad featuring a male model (vs. control) did not affect motivation to pursue the cognitive task among women ($M_{\text{man-ad}} = 1.89, SD = 1.12$ vs. $M_{\text{control}} = 1.63, SD = 1.27$) or men ($M_{\text{man-ad}} = 1.67, SD = 1.27$ vs. $M_{\text{control}} = 1.78, SD = 1.41; ps > .388$; Figure 3B). In line with our theorizing the man ad, unlike the woman ad, is less likely to make women feel unattractive, and therefore less likely to affect their cognitive pursuit.

Figure 3B: Cognitive Pursuit as a Function of Participant Gender and Feeling Unattractive
As in studies 1 and 2, we distinguished motivation from ability by looking at percentage of correctly found words of attempted words. No effect of gender, condition or their interaction emerged ($M_{\text{women}} = 89.3\%$ vs. $M_{\text{men}} = 89.9\%$ and $M_{\text{woman-ad}} = 87.5\%$ vs. $M_{\text{man-ad}} = 91.0\%$ vs. $M_{\text{control}} = 89.9\%$, $p$s $>.729$), suggesting feeling attractive affects motivation but not ability.

**Study 4: Feeling Attractive Increases Cognitive Pursuits among Children**

In study 4, we test the role of belief availability by studying a sample of preschool children (4-5 years old). As discussed previously, children at this age are less likely to hold a belief that attractive women are less intelligent. In fact, a large-scale longitudinal study by the National Child Development that collected cognitive tests and attractiveness ratings of British children between born March 3-9, 1958 ($n = 17,419$) reported a positive correlation between attractiveness and IQ for boys and girls at ages 7 and 11 (Kanazawa, 2011). Attractive children may be offered more intellectual opportunities and garner more compliments that motivate cognitive pursuits. Indeed, pretest 2 (Web Appendix B) confirmed preschoolers associate attractiveness with intelligence. To the extent attractiveness and intelligence go together for children, merely feeling attractive may motivate cognitive pursuits among them. We test this possibility in study 4.

**Method**

Sixty-one preschoolers (age range: 4-5 years, mean age = 61 months, SD = 4 months; 55% girls) participated at a preschool facility. All children had parental permission to participate
and interacted individually with an experimenter who was unaware of the research hypothesis.

We randomly assigned children either to a feeling-attractive or to a control condition. In both conditions, the experimenter first greeted the children. She then told children in the feeling-attractive condition, “Wow, look at you, how pretty/handsome you are today, wow!” Children in the control condition received this compliment at the end of the study, to ensure all children went away feeling they are attractive. All children then proceeded to a block-choice task—choosing between counting a 10-blocks or a 25-blocks pile (Figure 4). Counting 25 blocks is more difficult and reflects greater cognitive motivation. The experimenter, pointing once to each pile (order counterbalanced), asked, “Do you want to show me how you count this pile or this pile?”

Figure 4: Block Piles Used in Study 4

<table>
<thead>
<tr>
<th>Small pile (10 blocks)</th>
<th>Large pile (25 blocks)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Small pile" /></td>
<td><img src="image2" alt="Large pile" /></td>
</tr>
</tbody>
</table>

After choosing which pile to count, children indicated which pile was (a) larger and (b) easier to count. These measures are manipulation checks to ensure the children indeed perceived the 25-block pile as larger and less easy to count. Children did not actually count the pile they chose, because of time constraints on children’s participation. They then completed tasks for other experimenters. At the end of the session, children received a small thank-you gift.

**Results and Discussion**

Children perceived the piles as intended: all but one said the 25-block pile was larger, and only nine children (4 from the attractive and 5 from the control condition) said counting 25 blocks is easier. This misunderstanding might have arisen because these children thought counting 25 blocks was also easy, so counting was easy for them.

As we predicted, the attractiveness manipulation affected choice, such that 53.6% of those in the feeling-attractive condition chose to count 25 blocks, compared to only 27.3% in the control condition, $\chi^2(1, N = 61) = 4.390, p = .036$. This difference arose also when excluding responses of the nine children who said counting 25 blocks was easier (feeling-attractive: 54.2%;
control: \(25.0\%\), \(X^2(1, N = 52) = 4.645, p = .031\). Including gender and the gender × attractiveness interaction revealed no significant effects of gender or the interaction (\(ps > .564\)).

Praising the children on their looks may have increased their motivation to choose the difficult task because they believe attractiveness and intelligence go together or they felt happy or they liked the experimenter more. Importantly, our goal was to show a reversal of the effect we documented for adult women in studies 1-2: children’s motivation to work increases, when they feel attractive, while women’s motivation decreases.

**General Discussion**

Using everyday marketplace contexts—trying clothes (study 1), thinking about selfies (study 2), viewing advertisements (study 3), and receiving compliments (study 4)—we show that feeling attractive differentially affects women’s, men’s, and preschoolers’ cognitive pursuits. The finding that feeling attractive adversely influences cognitive motivations of women but not children suggests attractiveness feelings cue beliefs that attractive women are not intelligent only when such beliefs are formed and available. It highlights such beliefs likely develop overtime after internalizing societal and media portrayals. The finding that feeling attractive adversely impacts cognitive motivations of women but not men further suggests that accessible beliefs cued from feeling attractive impact cognitive motivations only when perceived self-diagnostic.

Our research thus makes several important contributions. First, we add theoretical richness to research on gender differences and stereotype threat (e.g., Eagly et al., 2012; Wood and Eagly, 2010) by linking it to research on motivation. We demonstrate gendered beliefs impact cognitive motivation, and these beliefs may be automatically activated by how one is feeling in the moment and whether the belief is perceived to be self-diagnostic. Merely feeling attractive can cue beliefs among adults that cognitive pursuits are less important for women and reduce cognitive pursuits among women for whom the beliefs are self-diagnostic. That something as subtle but omnipresent as the fit of one’s clothing, thinking about a selfie, or exposure to an advertising can influence cognitive pursuits based on age and gender makes this investigation especially important (Gunderson, 1989; Malkiel and Malkiel, 1973). While we do not provide process evidence through mediation, we do provide converging evidence through moderation, control measures, pretests, and triangulation. Future research could investigate these
issues further, including investigating possible beliefs that might impair cognitive pursuits among men, or why children show a boost in cognitive pursuits when feeling attractive.

Also important is that theoretically, we do show evidence these effects are motivation and not ability-based. Only a motivation-based account is in line with our theorizing that accessible beliefs impact performance via reduced motivation when these beliefs are perceived to be self-diagnostic. It would be unclear how belief accessibility could impact a person’s ability to think, except via feeling more confident or in a good mood, but both these factors should increase and not decrease cognitive pursuits, as we instead find. Policy interventions could therefore be designed to boost motivation among women, for instance, showcasing mentors and role models.

Furthermore, the finding that feeling attractive can differentially influence motivation of women and children suggests a role of belief formation over time and resulting from media and other societal exposures. These findings therefore have implications for societal responsibility in not furthering stereotypes and for policy interventions. Marketers may thus wish to consider more carefully the societal implications of their actions. Cognitive pursuits affect lifetime financial status, mental wellbeing, self-actualization, and life successes. Beliefs that one cannot be attractive and intellectually successful, can affect an entire lifetime of their choices, from the most mundane consumer choices to the most consequential including health, career and partner choices. These implications remain to be investigated.

Finally, we add to the children-development literature that shows sexualization adversely impacts older children’s cognitive performance, by instead showing feeling attractive is different and it encourages young children’s cognitive pursuits. Our finding that preschoolers are more motivated to pursue cognitive tasks when feeling attractive is encouraging and emphasizes the role of education and societal support encouraging children to fulfill their cognitive potential without sacrificing their looks. Presumably, as girls grow and attend middle and high school, they learn they cannot have it all—look good and work hard—leading, for example, to declining STEM enrollments (National Science Board, 2016), eventually reinforcing gendered careers and roles. The responsibility is on adults to ensure children continue to aspire to be successful in all aspects of life as they grow.
REFERENCES


National Science Board (2016), Science and Engineering Indicators 2016, Arlington, VA: NSF.


Web Appendix A: Pretest 1

This study tests adults’ beliefs regarding the association between intelligence and attractiveness, and whether these beliefs are gendered. We predicted that adults would think that attractive women (but not men) are less intelligent.

Method

Two hundred seventy-eight\(^8\) undergraduate students from a south-west university (49.6% women) participated in a series of studies in return for course credit. In the focal study, we first asked them to rate their level of agreement with two statements: “I think in general, other people often assume that attractive women are less intelligent,” and next we asked the same question about men, both on a 7-point scale (1 = strongly disagree, 7 = strongly agree). Second, on the following page we asked them “I think in general, other people often assume that for women it is more important to be: 1 = attractive, 7 = intelligent”, and then the same question for men. We added the phrase “I think in general, other people often assume that…” to all questions to reduce social desirability concerns. At the end of the session, participants reported their gender.

Results and Discussion

A 2 (participant gender: male vs. female) × 2 (target of belief: men vs. women) repeated-measures ANOVA on strengths of beliefs revealed significant effect of belief target \((F(1, 272) = 68.650, p < .001)\): the belief that attractive women are less intelligent was endorsed more strongly than the belief that attractive men are less intelligent \((M_{target=women} = 4.49, SD = 1.57 \text{ vs. } M_{target=men} = 3.78, SD = 1.53)\). We also find marginally significant effect of participant’s gender \((F(1, 272) = 3.750, p = .054)\), qualified by an interaction between participant’s gender and belief target \((F(1, 272) = 30.258, p < .001)\). Women (vs. men) endorsed more strongly the belief that attractive women are less intelligent \((M_{women} = 4.88, SD = 1.46 \text{ vs. } M_{men} = 4.09, SD = 1.57; F (1, 272) = 18.432, p < .001)\), suggesting this belief may be more accessible and more diagnostic to women. The belief that attractive men are less intelligent was endorsed equally by both genders \((M_{women} = 3.70, SD = 1.45 \text{ vs. } M_{men} = 3.86, SD = 1.60; p > .398)\).

\(8\) Four participants did not report their gender, resulting in a sample of 274.
Similarly, a 2 (participant gender: male vs. female) × 2 (belief applicability: men vs. women) repeated-measures ANOVA with gender as the between factor and belief applicability (“for women, more important to be attractive or intelligent” and “for men, more important to be attractive or intelligent”) as the within factor showed a main effect of belief applicability ($F(1, 271) = 167.058, p < .001$); adults think that it is more important for women (vs. men) to be attractive than intelligent ($M_{\text{women}} = 5.26$, $SD = 1.46$, $M_{\text{men}} = 3.76$, $SD = 1.51$; numbers are reverse coded, such that higher numbers reflect endorsement that attractiveness is more important and lower numbers reflect endorsement that intelligence is more important). The interaction was also significant ($F(1, 271) = 7.809, p = .006$), such that both genders equally believed that it was important for women to be attractive rather than intelligent ($M_{\text{women}} = 5.37$, $SD = 1.43$ vs. $M_{\text{men}} = 5.15$, $SD = 1.48$; $p > .210$), but men endorsed more strongly than women the belief that it was important for men to be attractive rather than intelligent ($M_{\text{men}} = 3.97$, $SD = 1.39$ vs. $M_{\text{women}} = 3.54$, $SD = 1.61$; $F(1, 271) = 5.506, p = .020$).
Web Appendix B: Pretest 2

This pretest investigates children’s beliefs regarding the association between intelligence and attractiveness, and whether these beliefs are gendered. We predicted that children would think that attractive men and women are also more intelligent.

Method

Forty-one children (age range: 4-5 years; 44% girls) participated at a preschool facility. All children had parental permission to participate and interacted individually with an experimenter who was unaware of the research hypothesis.

Preschoolers completed two trials: one in which the experimenter showed them pictures of a pair of female targets, and another in which the experimenter showed them pictures of a pair of male targets (see Figure B1). In each trial, the children indicated which of the two targets looks nicer. This served as our measure of attractiveness. The children also indicated which of the two targets in each pair was more intelligent (“knows the ABCs,” a relevant indicator of intelligence to preschoolers). This served as our measure of intelligence. We counterbalanced whether the child first saw the male targets or the female targets.

Figure B1: Girl and Boy Target Stimuli, Dresses, and Shirts Used in Pretest

<table>
<thead>
<tr>
<th>Female Targets</th>
<th>Male Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Female Targets" /></td>
<td><img src="image2" alt="Male Targets" /></td>
</tr>
</tbody>
</table>

We chose this activity because it is familiar to young children, and when conducting research with young children, age-appropriate activities are important (Peracchio, 1992). We also deliberately chose a pink dress and a blue dress for the girl models because these colors tend to be associated more with girls versus boys, respectively. Based on our theorizing, we predicted we would find a positive correlation between attractiveness of the model and intelligence. That
is, we tested for the association between being attractive and being intelligent, and not a possible confounding effect of being seen more as girl-like or boy-like (based on stereotypic clothing colors) on perceived intelligence. The child then proceeded to a different experiment and completed some tasks unrelated to this study. The child then received a small thank-you gift for participating, and returned to his or her classroom.

Results and Discussion

To test whether children associate attractiveness positively with intelligence, we coded each response as “1” if the child judged the target knowing the ABCs also as more attractive, and “0” otherwise. Overall, children indicated that the nicer target also knew his or her ABCs. Specifically, 68% of the children indicated the more attractive female target also knew her ABCs, which was different from chance ($\chi^2 = 5.48, p = .019$, one-tailed). Similarly, 63% of the children also said the nicer male target knew his ABC, which was marginally different from chance ($\chi^2 = 2.95, p = .086$, one-tailed). We found no participant-gender or question-order effects, nor did color of dress /shirt correlate with perceived intelligence of the model.

This study thus provides initial evidence that preschoolers positively associate attractiveness with intelligence, regardless of whether the target of belief is female or male and whether the person expressing the belief is a girl or boy.
Web Appendix C: Methodological Details, Study 1

(a) Sweatshirt manipulation

<table>
<thead>
<tr>
<th>More Attractive</th>
<th>Less Attractive</th>
</tr>
</thead>
<tbody>
<tr>
<td>(size fitting)</td>
<td>(size too small)</td>
</tr>
</tbody>
</table>

Note: These are pictures of a research assistant trying on a sweatshirt in the more-attractive and less-attractive conditions; no pictures of participants were taken during the study.

(b) Anagrams task
Rearrange the scrambled letters to form a word

IKCTS  __________
NELMO  __________
ANETLM __________
OLSPO  __________
LEESTC __________
NIEDM  __________
IDFEL  __________
VEERL  __________

Solutions: STICK, LEMON, MANTEL, POOLS, SELECT, DENIM, FIELD, REVEL
(c) Control measures

I feel confident
1 = not at all 2 3 4 5 6 7 = very much
I feel bad
1 = not at all 2 3 4 5 6 7 = very much
I feel good
1 = not at all 2 3 4 5 6 7 = very much

(d) Sweatshirt evaluation questions for cover study:

The sweatshirt is:
1 = poor quality 2 3 4 5 6 7 = high quality
1 = uncomfortable 2 3 4 5 6 7 = comfortable
1 = low fit 2 3 4 5 6 7 = high fit
1 = unattractive 2 3 4 5 6 7 = attractive
1 = not warm 2 3 4 5 6 7 = very warm
1 = cheap 2 3 4 5 6 7 = expensive
1 = not eye-catching 2 3 4 5 6 7 = very eye-catching
1 = not comfortable wearing 2 3 4 5 6 7 = comfortable wearing
1 = not likely to buy 2 3 4 5 6 7 = very likely to pay
1 = not likely to pay 2 3 4 5 6 7 = very likely to pay

There were no differences between conditions on sweatshirt evaluation measures ($ps > .113$), except for warm ($M_{more-attractive} = 5.08$ SD $= 0.95$, $M_{less-attractive} = 4.29$ SD $= 1.30$, $t(46) = 2.00$, $p = .051$) and expensive ($M_{more-attractive} = 4.69$ SD $= 0.75$, $M_{less-attractive} = 4.11$ SD $= 1.13$, $t(46) =1.70$, $p = .096$). Neither of these measures predicted number of words attempted or percent solved correctly ($p > .40$).
Web Appendix D: Methodological Details, Study 2

(a) Control condition

Making a Cup of Tea
This study is about how people do everyday things. Please imagine you are making a cup of tea.
Please describe the process of making a cup of tea.

(b) Attractive condition

Taking Pictures of Yourself
This study is about the kinds of picture people take of themselves. To begin, we would like you to think about an attractive picture of yourself.
You do not need to upload the picture.
Please tell us what the picture shows.
How attractive do you think the picture is and how you look in the picture?
Importantly, how do you feel about yourself when you take such attractive pictures of yourself?

(C) Cognitive test

COGNITIVE TEST
Please find as many words as you can (out of 14) in the grid below. The words are hidden in the grid, running in one of eight possible directions horizontally, vertically, or diagonally.
You have 2 minutes to complete this test and then you will be automatically moved to the next study.
You can choose not to work on it at all, or work as little as you like. After two minutes you will automatically advance to the next study.
### Summer Vacation

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>O</td>
<td>E</td>
<td>Y</td>
<td>S</td>
<td>M</td>
<td>A</td>
<td>T</td>
<td>T</td>
<td>N</td>
<td>W</td>
<td>N</td>
<td>S</td>
<td>A</td>
<td>R</td>
<td>B</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>Q</td>
<td>G</td>
<td>X</td>
<td>W</td>
<td>J</td>
<td>G</td>
<td>D</td>
<td>E</td>
<td>O</td>
<td>T</td>
<td>I</td>
<td>Y</td>
<td>E</td>
<td>V</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>V</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>I</td>
<td>C</td>
<td>R</td>
<td>I</td>
<td>V</td>
<td>R</td>
<td>N</td>
<td>A</td>
<td>M</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>A</td>
<td>Y</td>
<td>E</td>
<td>O</td>
<td>G</td>
<td>A</td>
<td>M</td>
<td>T</td>
<td>P</td>
<td>P</td>
<td>Z</td>
<td>C</td>
<td>B</td>
<td>M</td>
<td>C</td>
</tr>
<tr>
<td>5</td>
<td>N</td>
<td>V</td>
<td>N</td>
<td>V</td>
<td>D</td>
<td>G</td>
<td>A</td>
<td>M</td>
<td>L</td>
<td>D</td>
<td>H</td>
<td>C</td>
<td>L</td>
<td>U</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>H</td>
<td>T</td>
<td>A</td>
<td>O</td>
<td>B</td>
<td>N</td>
<td>A</td>
<td>A</td>
<td>I</td>
<td>L</td>
<td>H</td>
<td>B</td>
<td>S</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Z</td>
<td>I</td>
<td>U</td>
<td>E</td>
<td>I</td>
<td>P</td>
<td>N</td>
<td>B</td>
<td>E</td>
<td>N</td>
<td>R</td>
<td>Z</td>
<td>C</td>
<td>M</td>
<td>I</td>
</tr>
<tr>
<td>8</td>
<td>K</td>
<td>U</td>
<td>K</td>
<td>T</td>
<td>Q</td>
<td>E</td>
<td>B</td>
<td>V</td>
<td>D</td>
<td>L</td>
<td>G</td>
<td>S</td>
<td>B</td>
<td>V</td>
<td>O</td>
</tr>
<tr>
<td>9</td>
<td>N</td>
<td>E</td>
<td>S</td>
<td>I</td>
<td>E</td>
<td>M</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>O</td>
<td>N</td>
<td>Q</td>
<td>A</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>10</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>C</td>
<td>N</td>
<td>R</td>
<td>J</td>
<td>R</td>
<td>W</td>
<td>M</td>
<td>U</td>
<td>S</td>
<td>E</td>
<td>U</td>
<td>M</td>
</tr>
<tr>
<td>11</td>
<td>D</td>
<td>P</td>
<td>L</td>
<td>X</td>
<td>T</td>
<td>G</td>
<td>Y</td>
<td>H</td>
<td>S</td>
<td>D</td>
<td>J</td>
<td>Z</td>
<td>G</td>
<td>E</td>
<td>M</td>
</tr>
<tr>
<td>12</td>
<td>Z</td>
<td>F</td>
<td>R</td>
<td>F</td>
<td>I</td>
<td>W</td>
<td>T</td>
<td>C</td>
<td>V</td>
<td>E</td>
<td>Q</td>
<td>Z</td>
<td>N</td>
<td>H</td>
<td>C</td>
</tr>
<tr>
<td>13</td>
<td>S</td>
<td>K</td>
<td>K</td>
<td>J</td>
<td>E</td>
<td>M</td>
<td>C</td>
<td>Z</td>
<td>O</td>
<td>T</td>
<td>L</td>
<td>Q</td>
<td>U</td>
<td>W</td>
<td>X</td>
</tr>
<tr>
<td>14</td>
<td>A</td>
<td>L</td>
<td>S</td>
<td>E</td>
<td>X</td>
<td>C</td>
<td>U</td>
<td>R</td>
<td>I</td>
<td>S</td>
<td>T</td>
<td>O</td>
<td>N</td>
<td>D</td>
<td>J</td>
</tr>
<tr>
<td>15</td>
<td>E</td>
<td>R</td>
<td>I</td>
<td>F</td>
<td>P</td>
<td>M</td>
<td>A</td>
<td>C</td>
<td>L</td>
<td>A</td>
<td>Y</td>
<td>M</td>
<td>O</td>
<td>F</td>
<td>X</td>
</tr>
</tbody>
</table>

---

Please enter the location of the first letter for each of these words. For example, word OCEAN starts on 1st row 1st column. You enter: 1-1

<table>
<thead>
<tr>
<th>Word</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCEAN</td>
<td>1-1</td>
</tr>
<tr>
<td>AIRPLANE</td>
<td></td>
</tr>
<tr>
<td>BAQAOE</td>
<td></td>
</tr>
<tr>
<td>BEACH</td>
<td></td>
</tr>
<tr>
<td>BOAT</td>
<td></td>
</tr>
<tr>
<td>CAMPFIRE</td>
<td></td>
</tr>
<tr>
<td>DESTINATION</td>
<td></td>
</tr>
<tr>
<td>EXCURSION</td>
<td></td>
</tr>
<tr>
<td>HIKING</td>
<td></td>
</tr>
<tr>
<td>MUSEUM</td>
<td></td>
</tr>
<tr>
<td>SUMMER</td>
<td></td>
</tr>
<tr>
<td>SWIMMING</td>
<td></td>
</tr>
<tr>
<td>TRAVEL</td>
<td></td>
</tr>
<tr>
<td>VACATION</td>
<td></td>
</tr>
</tbody>
</table>
Solutions:
(Over, Down, Direction)
Airplane (13, 1, SW)
Baggage (8, 7, NW)
Beach (15, 1, SW)
Boat (5, 6, W)
Campfire (8, 15, W)
Destination (1, 11, NE)
Excursion (4, 14, E)
Hiking (1, 6, SE)
Museum (10, 10, E)
Ocean (1, 1, S)
Summer (14, 6, N)
Swimming (4, 1, SE)
Travel (5, 11, NE)
Vacation (15, 2, S)
Web Appendix E: Methodological Details, Study 3

(a) Control condition

Please use the space below to describe how to make a cup of tea.

(b) Unattractive woman (man) ad condition

Please look at the advertisement below and answer few questions about it:

(d) Analysis of advertisement evaluation questions:

Participants in the feeling-unattractive condition were asked to rate the ad on how it relates to them (1-7 scale, “I identify with this ad,” “This ad relates to me,” r = .92) and how much they like the ad (1-7 scale, like, enjoy, good ad; α = .93). On the relatedness measure, we only find main effect of gender ($F(1, 139) = 9.889, p = .002$), such that women rated ads featuring attractive models as less relatable to them than men (M = 2.36, SD = 1.69 vs. M = 3.25, SD = 1.69). On the advertisement liking measure, we find again main effect of gender ($F(1,139)$
= 8.301, p = .005) that mirrors the relatedness measure, such that women liked the ads less than men (M= 3.49, SD = 1.74 vs. M = 4.24, SD = 1.62). We further find an interaction effect (F(1,139) = 10.813, p = .001), such that among women there was no difference in judgments of ad liking of two types of ads (M = 3.26, SD = 1.75 vs. M = 3.78, SD = 1.73, p >.30), but men rated the female ad more favorably than the male ad (M = 4.95, SD = 1.57 vs. M = 3.66, SD = 1.43, t(81) = 3.87, p <.001).