THE EFFECT OF YOUNG WOMEN’S SEXUAL SELF-SCHEMAS
ON EMOTIONAL RESPONSES TO SEXUALIZED FEMALE IMAGERY IN
MAGAZINE ADVERTISING

A THESIS

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Chapter 1: Introduction

Sexualized imagery is pervasive and becoming increasingly more explicit in America’s media saturated culture; advertisers have splashed provocative images across nearly every available surface from looming billboards to public transportation. Individuals are exposed involuntarily to overt visual images on their daily commutes to work, at home while watching television, and at the supermarket while purchasing groceries. Research suggests that the glossy cover images appearing on magazines like Cosmopolitan promote an unrealistic association between a sexualized appearance and one’s identity (Johnson, 2007). Although previous studies have documented a significant link between media exposure and negative psychological consequences (e.g., Bessenoff, 2006; Engeln-Maddox, 2005; Grabe, Ward, & Hyde, 2008; Tiggemann & McGill, 2004), variability exists among women in their reactions to explicit advertising. The present study addresses how young women’s responses to sexualized and non-sexualized female imagery depicted in mainstream women’s magazines vary as a function of their own sexual identities.

The female sexual self-schema is a cognitive conceptualization of how a woman views herself as a sexual being (Andersen & Cyranowski, 1994; Cyranowski & Andersen, 1998, 2000). While one woman might hold a deeply ingrained image of herself as a sexually passionate and open individual, another may be less expressive and more
conservative. The first individual would likely view explicit imagery as less threatening due to congruence with her own sexual self-view, while the second may feel agitated and restrict her exposure to sexually laden messages and materials (Fisher, Miller, Byrne, & White, 1980). Because environmental cues have been shown to prime both positive and negative dimensions of the sexual self-schema (Cyranowski & Andersen, 2000), increasingly provocative magazine advertising may represent one such contextual cue.

In the present study, young women were predicted to experience different patterns of affective and attitudinal response as a function of their sexual self-schemas when exposed to advertisements selected from *Cosmopolitan* magazine, the best-selling title among women aged 18-34 years. Previous research indicates that, overall, women respond negatively to the sexualized presentation of the female body (e.g., LaTour, 1990; Sengupta & Dahl, 2008). The negative arousal and tension experienced among women is likely to generate unfavorable attitudes toward the advertisement and to the brand or product it is aiming to sell. Assuming that editors do not intend to distress their female readers, why do they continue featuring such advertisements in magazines directed toward women? Questions like this are important to consider given that sexualized imagery may elicit anxiety and discomfort among female consumers. Results highlight the importance of determining whether a market segment is positive or negative with regard to sexuality before appealing to them with sexualized imagery. Abiding by the well-known marketing axiom, “sex sells,” may not enhance financial gains but may instead offend the product’s target audiences.
Chapter 2: Literature Review

Social psychological research suggests that one’s identity, or self-concept, is a multifaceted knowledge structure comprised of numerous self-views within a variety of life domains (e.g., Kihlstrom & Cantor, 1984; Markus & Wurf, 1987; Pratkanis & Greenwald, 1985). Human sexuality represents one such domain, along with other areas as diverse as employment or leisure activity. These dynamic mental representations of self are involved in cognitive processing by providing a reference point for the interpretation of personally relevant social information. Incoming stimuli from the external world are filtered through these preexisting frameworks in the quest for internal understanding. Markus (1977) recognized the significance of these underlying structures as individuals seek to interpret their thoughts, feelings, and behavior. As a result, she introduced the concept of self-schemata, or “cognitive generalizations about the self, derived from past experience, that organize and guide the processing of self-related information contained in the individual’s social experiences” (Markus, 1977, p. 64).

Human sexuality investigations have historically focused on either attitudinal responses to external sexual stimuli (e.g., Fisher, Byrne, White, & Kelley, 1988), patterns of sexual behavior (e.g., Derogatis & Melisaratos, 1979), or physiological arousal (e.g., Hoon, Hoon, & Wincze, 1976). Andersen and Cyranowski (1994) shifted this perspective and considered how persons regard themselves as sexual beings. They proposed that the
sexual self-schema is a critical component of the self-system. These cognitive frameworks, which are developed over time, shape present experiences, direct information processing in schema-relevant domains, and guide sexual behavior.

In order to conceptualize and validate the construct of a sexual self-schema among heterosexual women, Andersen and Cyranowski (1994) developed the Sexual Self-Schema Scale (SSSS). Representing the first attempt at operationalizing the cognitive component of sexuality, the instrument was created as a discrete and unobtrusive measure of a traditionally sensitive topic. The original list of 300 adjectives was generated to represent women’s normative beliefs of what constitutes a “sexual woman.” Two hundred of these items were taken from Anderson’s (1968) list of 555 personality-trait words. Andersen and Cyranowski selected these adjectives as representing 100 positive (e.g., warm, experienced) and 100 negative (e.g., cold, self-conscious) aspects of women’s sexuality. Items of each valence were chosen to cover the full range of likeability values (see Anderson, 1968 for a complete list of adjectives rated for their desirability in another person). The investigators then generated an additional 100 adjectives to reflect potentially significant aspects of women’s sexual self-schemas not yet represented (e.g., passionate, loving).

The list of 300 trait adjectives was first rated by a sample of undergraduate women for their relevance to the conceptualization of a sexual woman. Each word was rated on a 7-point scale where, 0 = not at all descriptive of a sexual woman and 6 = very much descriptive of a sexual woman. In addition to the undergraduates, two samples of older women were obtained to determine generational differences in the adjectives’ perceived relevance to female sexuality. Few differences among the different groups of
women were found, thus supporting the generalizability of the construct across the lifespan (i.e., 20s to 70s).

The initial list of 300 adjectives was reduced to a 50-item scale consisting of 26 target adjectives descriptive of a sexual woman. For example, “unromantic” was perceived as the least descriptive quality, while “loving” was viewed as highly descriptive. Subsequent factor analysis indicated that the items were clustered along three dimensions: (1) Passionate-Romantic, (2) Open-Direct, and (3) Embarrassed-Conservative. Adjectives with the highest ratings and greatest descriptive relevance had higher loadings on Factor 1, items in the middle to high range mainly represented Factor 2, and items with the lowest ratings and least descriptive relevance had higher loadings on Factor 3. Factors 1 and 2 are often considered together as the positive aspect of women’s sexual self-schemas, whereas all the items for Factor 3 have a negative valence.

In the final version of the instrument, respondents are asked to rate the extent to which each item is self-descriptive. A total score is calculated by first summing the ratings of positive adjectives (i.e., those on Factors 1 and 2) and then subtracting the sum of negative adjectives (i.e., Factor 3).

Sexual self-schemas were originally formulated according to a bipolar model, which contrasts individuals at opposite ends of a single continuum of cognitive representations. Women ranking in the top and bottom thirds of their respective sample’s distribution of total schema scores would then be selected for further study. The major problem with this univariate approach is its failure to appreciate the entire range of data by selecting only extreme scorers for analysis, essentially bypassing those who score in the middle of the distribution. Andersen and Cyranowski (1994) suggest that relative to
women who possess either strong positive or strong negative schemas, women who fall in the middle may do so for different reasons (i.e., women with weak endorsements of both positive and negative items or strong endorsements of both positive and negative items). Instead, a bivariate model is advantageous because it allows for the possibility of effects due to differences in valence as well as levels of activation between the positive and negative dimensions (Andersen & Cyranowski, 1994; Cyranowski & Andersen, 1998, 2000). The following graphic representations will help differentiate the original bipolar model from the revised bivariate model (see Figures 1 and 2).

*Figure 1*

**SSSS Bipolar Model**

The bivariate model suggests that the positive (i.e., the summation of Factor 1: *Passionate-Romantic* item ratings and Factor 2: *Open-Direct* item ratings) and negative (i.e., Factor 3: *Embarrassed-Conservative* item ratings) dimensions make independent and opposing contributions to the unified sexual self-schema. Using women’s scores on the SSSS, the bivariate model distinguishes four possible schema types. The first of these, *positive schematic*, is a woman who shows a strong endorsement of positive dimensions
and a weak endorsement of the negative dimension. More specifically, she might agree that “romantic” is very descriptive of herself, but that “cautious” is not at all descriptive. Conversely, negative schematic women show a strong endorsement of the negative dimension and a weak endorsement of the positive dimensions. They may consider “prudent” to be an accurate reflection of themselves, but view “arousable” as wholly inappropriate. The final two groups are those women who would score in the middle third of the bipolar model’s distribution. In particular, a woman classified as aschematic weakly endorses both positive and negative dimensions. For example, she may agree that she is not very “sympathetic,” “open-minded,” “embarrassed,” or “timid.” Finally, the co-schematic group strongly endorses both positive and negative dimensions. These women perceive themselves as “direct” and “casual,” yet they also view themselves as “conservative” and “self-conscious.”

Research using the bivariate model has discovered consistent differences in the way women experience their sexuality (Andersen & Cyranowski, 1994; Cyranowski &
Andersen, 1998, 2000). For instance, Cyranowski and Andersen (1998) extended the literature by further distinguishing response patterns among the four schema types through a series of between- and within-group comparisons. The authors found that women with predominantly positive sexual self-schemas – those with both romantic attachment and arousal-motivation features – reported more extensive involvement in previous intimate relationships, a broader repertoire of sexual behaviors, more sexually liberal attitudes, positivity toward sexual expression, and greater confidence in making predictions about their sexual futures compared to their more negatively schematic counterparts. Women with a predominantly negative sexual self-schema described themselves as relatively unromantic, less confident in sexual contexts, and as possessing more conservative attitudes and values regarding sexual matters. Their less diverse histories reflect a behavioral inhibition in sexual and romantic relationships. Relative to positively schematic women, negatively schematic women report lower levels of sexual desire, arousal, passionate love, a heightened avoidance of sexual situations, and greater anxiety about being unloved or abandoned by intimate partners. The remaining two groups exhibit more moderate patterns and neutral evaluations, falling between the two extremes in regard to valence and activation.

Cyranowski and Andersen (1998) conducted a path analysis to illustrate the two distinct cognitive-affective routes by which aschematic and co-schematic groups arrive at similar sexual evaluations despite their different group qualities. Aschematic women are believed to lack an articulated, accessible framework from which to guide their sexual experiences (Andersen & Cyranowski, 1994). They resembled the negative group in their lower levels of sexual desire, arousal, and emotional intimacy, yet they also reported
significantly lower levels of anxiety, self-consciousness, more lifetime sexual experiences, and greater personal esteem than the negative group. Conversely, co-schematic women hold salient, yet conflicting sexual self-views that manifest as approach-avoidance tendencies. These women experience a strong desire for emotional attachments paired with sexual uncertainties. Cyranowski and Andersen (1998) concluded that scores on the positive schema dimension largely predicted sexual arousal, while scores on the negative dimension predicted sexual anxiety.

Additional research has examined how women with alternate sexual self-schemas cognitively process sexual-romantic information about the self. Cyranowski and Andersen (2000), guided by the original experimental paradigm of Markus (1977), presented women with a booklet containing stimulus words and had them circle those they believed were self-descriptive. Participants then listed reasons for why they felt a particular trait was self-descriptive using specific examples of past behavior. Results indicated that the four schema groups displayed systematic differences in retrieving schema-consistent personal experiences, predicting future responses to sexual-romantic cues, and in the speed with which they made sexually-relevant self-judgments. Positively schematic women generated significantly more behavioral evidence when prompted by romantic and open adjectives, while the negatively schematic group generated more evidence when responding to embarrassed and conservative adjectives. Of particular interest to the current study is Cyranowski and Andersen’s mention of the potential effects of contextual priming on sexual schematic accessibility. For instance, certain environmental cues may prime the embarrassed or conservative schema dimension, thereby activating associated negative affect such as anxiety or discomfort. One could
speculate that identifying such cues might have clinical utility in helping women with body image disturbance, eating disorders, or sexual dysfunction.

Several studies have examined the impact of the “thin-ideal” body image that is ubiquitous in fashion magazines – one potential source of contextual priming. The purpose of this project, however, was to address how women are sexually portrayed in popular women’s magazines, especially in the advertisements that they contain. Attention was directed toward this smaller body of literature, which has identified an increasing pattern toward explicitness among mainstream publications. The first step toward understanding potential responses to advertising was to review research documenting media depictions of women. Examining contemporary trends helped to frame the issue and establish the media context in which young women are coming of age.

In his seminal study of gender disparities within print media, Erving Goffman (1979) completed one of the first major analyses of visual communication. His primary objective was to illustrate how advertising functions to create shared meaning and preserve gendered stereotypes. Through his development of a detailed coding system, Goffman concluded that women are often presented as passive, sexual subordinates to their more domineering, masculine counterparts. In a conceptual replication, Kang (1997) utilized Goffman’s (1979) original coding scheme to analyze print advertisements in 1991 and compared the more modern images to portrayals of women in 1979. The results showed that despite the changing status of women in society, the overall representation of women had not changed much and continued to be stereotypical. Kang expanded Goffman’s classification system to include “body display,” asserting that nudity was a primary means of prescribing feminine roles. For this additional category, Kang
identified a noteworthy shift: there was significantly more female nudity appearing in the 1991 advertisements compared to the 1979 advertisements. A tendency toward sexualizing the female body has been substantiated by other content analyses (e.g., Archer, Iritani, Kimes, & Barrios, 1983; Coltrane & Adams, 1997; Lindner, 2004; Monk-Turner, Wren, McGill, Matthiae, Brown, & Brooks, 2008; Plous & Neptune, 1997). Researchers point to the theoretical significance of emphasizing a woman’s physical appearance to the extent of sacrificing her personal identity. A sexualized female body becomes just another aesthetic object lost within a media landscape tailored to the heterosexual male gaze, and marketed to women themselves in women’s lifestyle magazines (Fredrickson & Roberts, 1997; Jhally, 1995).

What exactly constitutes a sexualized female body? Coltrane and Adams (1997) recognized three basic ways in which female sexuality might be used in advertising to sell products. First, models might be the object of another’s sexual gaze or self-gaze (e.g., looking at oneself in a mirror). Second, models may be engaging in alluring behavior such as flirting, winking, sexual teasing, or batting their eyelashes. Third, models might be outfitted in provocative attire to capture consumers’ attention (e.g., body display; tight-fitting, low-cut, or sexy clothing; degree of nudity). Recent reviews of the content, effect, and purpose of sexual information in advertising have revealed additional types of sexual content including sexual referents (e.g., allusions, innuendo, and double entendre), embeds (e.g., symbolism and subliminal elements), and contextual factors (e.g., setting and production techniques; Reichert, 2002; Reichert & Ramirez, 2000). The ways in which sexuality is used as a marketing tool are not mutually exclusive and vary in degree from subtle to explicit, verbal to visual.
While it is customary to find sexualized images of women in popular men’s magazines (e.g., *Maxim*, *Stuff*, and *FHM*; Krassas, Blauwkamp, & Wesselink, 2003; Taylor, 2006), more and more *women’s* magazines are portraying women in a similarly sexual manner. For example, a content analysis by Reichert, Lambiase, Morgan, Carstarphen, and Zavoina (1999) revealed that women appearing in publications targeted toward women were almost twice as likely to be dressed explicitly in 1993 compared to 1983. Furthermore, Krassas, Blauwkamp, and Wesselink (2001) analyzed and compared images contained within *Cosmopolitan* and *Playboy* magazines. Results indicated that the depiction of women was comparable, and regardless of the presumed readership, both magazines reflected a heterosexual male perspective of female sexuality. The sole distinction between the two publications was that “…the leering in *Playboy* is not concealed as it may be in *Cosmo* by its audience of women and its claims about women’s empowerment and pleasure” (p. 768). The authors concluded that magazines targeted toward both genders feature images of women as decorative objects designed to attract sexual attention from men.

Not only are young women subjected to advertising campaigns that normalize sexualized feminine figures, they may be exposing themselves voluntarily to such imagery by reading young women’s magazines. *Cosmopolitan* is the best-selling title among women aged 18-34 years, a critical time of enhanced romantic and sexual exploration (Arnett, 2000). This magazine is published in 34 languages, 58 international editions, and is distributed in over 100 countries (*Cosmopolitan* Media Kit, 2008). These figures suggest that millions of women worldwide are viewing sexualized female imagery comparable to that portrayed in *Playboy* on a monthly basis (Krassas et al.,
Previous research, however, indicates that women respond negatively to the incessant presentation of the female body as a sexual object. LaTour’s (1990) investigation of arousal responses to print advertising revealed that women reported significant tension and negativity upon viewing explicit female nudity, whereas men experienced an energizing effect following exposure to the same models. Moreover, men’s more positive arousal predicted more favorable attitudes toward the advertisement (LaTour, 1990). An even earlier study found that women exhibited a spontaneous negative reaction to sexualized imagery (Griffitt & Kaiser, 1978). The research design entailed conducting repeated trials of a discrimination learning task so that participants’ choice responses determined whether or not they would be exposed to an erotic or non-erotic slide (all were pretested to be equally sexually arousing for both men and women). Results found that women sought to consciously evade exposure to erotic slides, whereas men sought to increase their exposure. The authors concluded that sexual stimuli served as reinforcement (i.e., a reward to be approached, desired, and praised) for men but as punishment (i.e., a consequence to be avoided, rejected, and condemned) for women.

The negative arousal and affect experienced by women is likely to generate more negative attitudes toward the advertisement and toward the brand or product it is trying to sell. In fact, some research has found that advertisement attitudes were based primarily on affective reactions rather than on deliberative cognitions (Sengupta & Dahl, 2008). Huang (2004) similarly concluded that the impact of sexualized imagery depends upon the extent to which the arousal experienced by viewers elicits pleasure (i.e., positive affect); without any concomitant pleasant feelings, arousal may not bring about favorable attitudes. Assuming that editors (note that the current editor-in-chief of Cosmopolitan is a
woman; Hearst Communications, 2009) do not wish to antagonize their female readers, why then do they use such advertisements in magazines directed toward women?

A recent investigation by Reichert, LaTour, and Kim (2007) represented the first time the sexual self-schema concept has been tested within an advertising context. The authors explored how gender and sexual self-schemas influence emotional reactions to sexual content in commercials featuring men, women, and both sexes together. Results showed that among female viewers, sexual self-schema significantly predicted affective and attitudinal responses to opposite-sex and both-sex images, but not to same-sex images; for male viewers, only a marginal link existed between sexual self-schema and affect in response to female models (see Andersen, Cyranowski, & Espindle, 1999, for a discussion of the male sexual self-schema). These results highlight the importance of determining how members of the target audience feel about their own sexuality before appealing to them with explicit imagery. Although positively schematic women might be receptive toward such advertising campaigns, negatively schematic women might be offended and uncomfortable.

Of particular interest to the current research is the fact that women’s sexual self-schemas had no effect upon exposure to same-sex images (Reichert et al., 2007). The authors explain these results by suggesting that for heterosexual women, images of men and cross-sex couples represent personally relevant sexual information. Female models featured in provocative advertisements, however, also possess valuable information in areas applicable to women (e.g., how to attract male attention and be sexually desirable; Engeln-Maddox, 2005). Because research has found that women with predominantly negative sexual self-schemas tend to perceive themselves as relatively unattractive
(Wiederman & Hurst, 1997), one could argue that when presented with idealistic standards of beauty, negative affective arousal may ensue. Conversely, if positively schematic women see themselves as more physically appealing to male audiences, they may actually be more accepting of and tolerant toward sexualized female imagery. Magazines like *Cosmopolitan*, which is targeted toward “fun, fearless females” (*Cosmopolitan* Media Kit, 2008), may be sought after by women who report a strong behavioral openness regarding their sexuality. Indeed, research conducted by Bielay and Herold (1995) found that female university students with more liberal sexual attitudes were more likely to read about sexuality topics (e.g., improving one’s sex life, what men like and desire, romance), including those featured in *Cosmopolitan*, than students with more conservative sexual attitudes.

Hudson, Murphy, and Nurius (1983) described attitudes toward human sexual expression as existing along a continuum ranging from a liberal to conservative orientation. An individual on the liberal end believes the expression of sexuality should be open and unrestrained, while someone with a conservative perspective desires a more guarded and closely regulated expression style. A recent investigation by Sengupta and Dahl (2008) highlighted the significance of this individual difference variable in their study of gender-related reactions to gratuitous sex appeals in advertising (i.e., appeals that were unnecessarily explicit and irrelevant to the product). Women, on average, preferred and reported more favorable affect toward a non-sexual advertisement than a sexual advertisement. Of particular interest to the present study was the intragender variation discovered among women in their response patterns. Women with more conservative sexual attitudes evaluated a non-sexual advertisement significantly more
favorably than a sexual one. Conversely, women with more liberal sexual attitudes demonstrated a stronger preference for a sex-based advertisement versus a non-sexual advertisement – the very pattern obtained among men in the sample. The role of affective reactions was then examined by looking at positive and negative measures separately. While conservative women reported greater negative affect in response to the sexual versus the non-sexual advertisement, liberal women reported greater positive affect in response to the sexual versus non-sexual advertisement. As previously mentioned, women with positive sexual self-schemas possess more sexually liberal attitudes than their negatively schematic counterparts, making it likely that they, too, would evaluate sexualized imagery more favorably (Cyranowski & Andersen, 1998).

Andersen and Cyranowski (1994) have provided some evidence for a more “stable” core among positively schematic women. In their initial work, the authors discovered a significant interaction between sexual self-schema and the presence of a current romantic relationship in women’s global ratings of themselves as sexual women. Across both levels of relationship status (i.e., currently involved or not involved), positively schematic women consistently rated themselves as above the average. Negatively schematic women, however, described themselves more positively only when they were currently involved with an intimate partner. Their self-evaluations decreased with reports of singlehood, indicating the presence of a self-view that may be more contingent upon external circumstances than upon internal representations. Variability due to romantic involvement suggests that the sexual self-schema of certain women may be significantly moderated, defined, or shaped by situational factors. One of these
Situational factors may be the sexualized female imagery appearing in mainstream publications marketed to young women.

Prior research has suggested the following: women vary in their conceptualizations of themselves as sexual beings (e.g., Andersen & Cyranowski, 1994); explicit depictions of the female body exist within print advertising (e.g., Coltrane & Adams, 1997; Kang, 1997; Monk-Turner et al., 2008); these depictions systematically influence affective states (Huang, 2004; LaTour, 1990); and that certain women might actually respond favorably to sexualized advertising (Sengupta & Dahl, 2008). The primary objective of the present study was to provide an empirically based description of how young women with different sexual self-schemas vary in their emotional and attitudinal responses to female imagery displayed in mainstream women’s magazines. Different patterns of results were expected across the four schema groups (i.e., positive, negative, aschematic, co-schematic) in response to advertising featuring sexualized versus non-sexualized female imagery.

Previous researchers have observed that the most distinct group differences in criterion variables, including sexual and romantic affect and behavior, are found between women with well-articulated sexual self-schemas (i.e., positive versus negative; Andersen & Cyranowski, 1994; Cyranowski & Andersen, 1998, 2000). Therefore, I hypothesized that young adult women with relatively positive sexual self-schemas would (a) experience more positive affect (i.e., increased pleasure and arousal) while viewing sexualized female imagery, (b) evaluate the sexualized advertisements more favorably, (c) report greater post-task positive affectivity, and (d) report less post-task negative affectivity when compared to women with relatively negative sexual self-schemas.
Women with negative sexual selfschemas were predicted to (a) experience more negative affect (i.e., decreased pleasure and arousal) while viewing sexualized female imagery, (b) evaluate the sexualized advertisements less favorably, (c) report less post-task positive affectivity, and (d) report greater post-task negative affectivity when compared to the positive schema group.

Hypotheses regarding young women without a clear valence to their sexual selfschemas were proposed with greater caution. Responses of the aschematic and co-schematic groups were predicted to fall between the more extreme scores of the positive and negative groups in regard to their in-task affective response, attitudes toward female imagery, and post-task affectivity. I anticipated that these women would report scores that fell between the lower levels of the negative group and the higher levels of the positive group (Andersen & Cyranowski, 1994; Cyranowski & Andersen, 1998, 2000).

Finally, the series of images viewed by participants was manipulated so that approximately half of the women viewed three sexualized advertisements while the other half viewed three non-sexualized advertisements. Participants did not view all advertisements because doing so may have elicited relative comparisons and confounded potential effects (e.g., were participants responding to the sexual, non-sexual, or both series of images?). The pattern of responses to the two series was expected to interact with the four schema groups. I hypothesized that responses of positively schematic women who viewed the sexualized sequence would be similar to the responses of positively schematic women who viewed the non-sexualized sequence. The level of sexual appeal was expected to create the strongest discrepancy in responses among women with negative sexual self-schemas. Such women who viewed the sexualized
sequence would report less favorable attitudes and more negative affectivity compared to other negatively schematic women who viewed the non-sexualized sequence.
Chapter 3: Method

Pilot Study

Although women are exposed to a wide range of images in their daily lives, the focus of the current research was on the effects of sexualized female imagery in print advertising. Therefore, a pilot study was conducted to select appropriate stimulus materials for the primary investigation. Twenty full-page color advertisements featuring beauty or appearance-oriented products were collected, with half containing stronger sex appeals than the other half. Products marketed to enhance physical appearance were selected because 60% of body-enhancing product advertisements use sexuality to sell the merchandise (Monk-Turner et al., 2008). Advertisements were collected from Cosmopolitan because it is nationally distributed and holds the title of the best-selling, general-interest magazine targeted toward young women (Cosmopolitan Media Kit, 2008). All print images were derived from hard copy issues published within the last year. Only advertisements featuring a single female were used, thus eliminating potential effects due to desensitization by multiple models.

A survey design for the pilot study was chosen and implemented with Integrated Network Quizzing, Surveying, and Interactive Testing software (inQsit; Fortriede & Draper, 1996). Thirty-two female participants recruited through the Ball State University (BSU), Department of Counseling Psychology subject pool provided responses (see
Appendix A for a complete list of pilot questions). Because data were collected online, the location of the research setting was anywhere the participant had access to the internet. Participants were presented each advertisement (all scanned and uploaded into inQsit) one at a time and asked to rate how sexy and sexually desirable the female model was on a 7-point scale where 7 = *very sexy* or *sexually desirable* and 1 = *not at all sexy* or *sexually desirable*. As suggested by Hausenblas, Janelle, Gardner, and Hagan (2002), each model was also evaluated for how closely she represented the ideal female physique on a 7-point scale ranging between 1 (not at all close) and 7 (very close).

Ratings on these three items were summed to form a total score for each advertisement, with higher scores indicating a stronger sexual appeal. The cumulative score for a given advertisement could range from a minimum of 3 to a maximum of 21. The three advertisements with the lowest mean ratings represented the non-sexualized series in the primary investigation ($M_1 = 8.10, SD_1 = 3.25; M_2 = 10.06, SD_2 = 4.33; M_3 = 10.06, SD_3 = 3.69$), while the three advertisements with the highest mean ratings of sexual appeal represented the sexualized series of advertisements ($M_4 = 16.42, SD_4 = 4.01; M_5 = 16.55, SD_5 = 4.82; M_6 = 16.71, SD_6 = 4.00$).

**Primary Study**

Participants

A convenience sample of female undergraduates was requested from the BSU Departments of Counseling Psychology and Psychological Science subject pools. An *a priori* power analysis recommended a total sample size of 179 participants for an 80% chance of detecting statistically significant results with a medium effect size of .25 (Cohen, 1965, 1988; Faul, Erdfelder, Lang, & Buchner, 2007; Levin, 1997; Tabachnick
& Fidell, 2005). To err on the side of caution, a sample of 200 students was requested in anticipation of subject attrition. Individuals who participated in the pilot study were not eligible to participate in the primary study. Upon receiving full approval from the University’s Institutional Review Board (IRB), opportunities to participate were advertised both online and in a recruitment e-mail sent to instructors who then forwarded it to their students enrolled in qualifying courses. To ensure an adequate sample size was obtained, students who completed the study were encouraged to inform other students meeting the inclusion criteria to contact the principal investigator for participation opportunities. This voluntary passing-along of information created a “snowball effect” where students outside of the psychology departments could be reached.

Of the original 205 students who signed a consent form, a total of 11 were excluded from analysis. Ten cases were eliminated due to missing data. These individuals either failed to complete the SSSS (i.e., schema group classification was not possible) or failed to answer items critical to the calculation of composite variables (e.g., a portion of the post-task affectivity instrument). One woman, self-identified as being exclusively homosexual, was dropped from the analysis. This was done because the SSSS has not yet been validated for use with this population (Andersen & Cyranowski, 1994). Only one student who signed a consent form failed to access the inQsit modules and participate after two reminder e-mails. This resulted in a final participant completion rate of 99.5%. The final sample consisted of 193 female students between the ages of 18 and 25 ($M = 19.87, SD = 1.54$).

Of those students included in the analysis, 86.5% self-identified as Caucasian, 6.2% as African American, 4.7% as multi-racial, and the remaining 2.6% indicated a
variety of other racial and ethnic backgrounds (e.g., Hispanic, Middle Eastern, African).

Information regarding relationship status was obtained through a multiple response item; each female was, therefore, able to choose more than one selection. The most frequently selected response among participants was dating exclusively with one partner \((n = 91)\); others reported being single \((n = 67)\), never married but involved with a romantic partner in a committed relationship \((n = 50)\), engaged \((n = 15)\), cohabitating \((n = 8)\), or married \((n = 4)\). For those individuals reporting current involvement with a romantic partner, the mean length of relationship at the time of data collection was 22.40 months \((n = 116; SD = 18.91)\).

Information regarding participants’ magazine consumption was also collected to gauge the frequency and degree of exposure to print media. The greatest number of participants reported reading magazines for leisure either once a month (31.6%) or a few times a month (31.1%), followed by once every six months (17.1%), less than once a year (8.8%), weekly (7.8%), and once a year (3.6%). No participants reported that they read magazines on a daily basis. A list of mainstream publications was provided from which participants selected magazines they had read at least once in the previous month. The top six most popular titles included the following: *Cosmopolitan* (59.1%), *People* (47.2%), *Seventeen* (26.4%), *Glamour* (23.3%), *In Style* (14.0%), and *U. S. Weekly* (14.0%).

**Materials**

*Sexual Self-Schema Scale* (SSSS; Andersen & Cyranowski, 1994). The SSSS was used as a measure of women’s cognitive representations of themselves as sexual beings (see Appendix B). Participants rated the degree to which 50 adjectives (26 scored and 24
fillers) were self-descriptive using a 7-point, Likert-type scale ranging from 0 = *not at all descriptive of me* to 6 = *very much descriptive of me*. The instrument contains three factor analytically determined subscales: two positive aspects (*Passionate-Romantic* and *Open-Direct*; 10 items and 9 items, respectively) and a negative aspect (*Embarrassed-Conservative*; 7 items).

The SSSS has been demonstrated to have psychometric integrity through extensive validity and reliability assessments (Andersen & Cyranowski, 1994). For instance, analysis suggests that the SSSS is both internally consistent (Cronbach’s $\alpha = .82$ for the full scale) and stable (with a test-retest reliability of .89 after two weeks and .88 after nine weeks). In the current study, Cronbach’s $\alpha$ for all 50 items was .80. Andersen and Cyranowski reported that convergent validity was demonstrated in that the measurement was correlated with, but distinguishable from, several other sexual constructs and measures focusing on present functioning (e.g., history of romantic relationships, range of sexual behavior). Discriminant validity data indicated that the measure is differentiated from nonsexual personality dimensions (i.e., extraversion and self-esteem) and that once these variables were controlled, the SSSS added significant increments in explained variance in the prediction of sexual attitudes, lifetime sexual behavior, and arousability. Finally, the instrument protects against social desirability biases with its covert, less personal item format. As an example of its opacity of purpose, when asked to generate a two-word title for the measure, not one female undergraduate referenced sex or sexuality (Andersen & Cyranowski, 1994).

Unlike previous studies that treated the sexual self-schema as a bipolar concept (e.g., Reichert et al., 2007; Reissing, Laliberté, & Davis, 2005; Wiederman & Hurst,
2005), the current study utilized the bivariate scoring technique. Female respondents were categorized into one of four possible schema groups as determined by the intersection of their scores on the two SSSS dimensions. The positive dimension score was calculated by summing the ratings on adjectives from Factors 1 and 2, while the negative dimension score was determined by ratings on Factor 3 adjectives. Median split procedures were then performed separately on the positive and negative dimensions utilizing cut-offs based upon the current sample (i.e., 77/78 for the positive schema dimension and 20/21 for the negative schema dimension). Women classified as “positive” scored above the median on the positive dimension (i.e., a 78 or higher) and below the median on the negative dimension (i.e., a 20 or below), whereas those classified as “negative” scored below the median on the positive dimension (i.e., a 77 or below) and above the median on the negative dimension (i.e., a 21 or higher). Moreover, women classified as “aschematic” scored below the median on both dimensions, while the “co-schematic” women scored above the median on both dimensions (Andersen & Cyranowski, 1994).

Advertisements. Sexualized and non-sexualized advertisements selected during the pilot study served as stimulus materials for the primary investigation. Rather than exposing participants to only a single image, a total of three advertisements were viewed by each female to approximate the experience of reading an actual magazine. Participants were asked the same three questions for each advertisement they viewed as a manipulation check (e.g., “In your opinion, how sexy is the female model in this advertisement?”). Ratings on these three items were summed and compared to findings obtained during the pilot phase to ensure that the perception of the sexual content of the
advertisements remained consistent across time. While advertisements contained within the non-sexualized series were perceived as sexier in the primary investigation than in the pilot study (i.e., sex appeal ratings increased; $M_1 = 11.84, SD_1 = 4.63; M_2 = 12.28, SD_2 = 4.10; M_3 = 11.91, SD_3 = 4.30$), those in the sexualized series were perceived as less sexy (i.e., sex appeals ratings decreased; $M_4 = 15.55, SD_4 = 4.06; M_5 = 14.70, SD_5 = 4.52; M_6 = 15.09, SD_6 = 4.44$). Because the pattern remained uniform [i.e., advertisements appearing in the sexualized series were still rated as reflecting a significantly stronger sex appeal than those in the non-sexualized series; $t(153.6) = 6.146, p < .001$], the manipulation was judged sufficient.

In-task affective response. Hausenblas et al. (2002) observed that many of the experimental designs in past studies have used either a pre-post assessment or a post-only assessment of the media’s effects on psychological well-being. The authors argued that people’s immediate in-task emotional responses may affect post-task mood. In consideration of these points, two subscales modeled after the Self-Assessment Manikin (SAM; Bradley & Lang, 1994; see Appendix C) were used to measure participants’ emotional reactions. Participants indicated how they felt as they viewed each advertisement along valence and arousal dimensions. The valence rating scale ranged from a broad smile (1) to a stern frown (9), while the arousal scale was anchored from excited (1) to calm (9). These two dimensions explain most of the independent variance in emotional responses and the ratings are correlated highly with those obtained from lengthier semantic differential scales (Greenwald, Cook, & Lang, 1989; Lang, Greenwald, Bradley, & Hamm, 1993). Scores on the two SAM dimensions were reverse keyed and averaged across the three advertisements to create single measurements of
each affective valence and affective arousal to the series, with lower numbers representing lower levels of response.

**Attitudinal response to advertisements.** Attitudinal evaluations of the advertisements were measured with a series of adjective items, all selected due to their previous use in related advertising research (e.g., LaTour, 1990; LaTour & Henthorne, 1994; Severn, Belch, & Belch, 1990). The following adjectives were utilized to represent attitudes toward the advertisement: distinctive, entertaining, good, interesting, irritating (reverse scored), and offensive (reverse scored). All items were posed in an identical format (e.g., “In your opinion, how distinctive is this advertisement?”) and answered on 7-point scales where 7 = very distinctive and 1 = not at all distinctive. Attitudinal response to a given advertisement was determined by the summation of the six adjective ratings with higher numbers indicating more favorable responses. Summed ratings of the three advertisements were then averaged to create a single measurement of attitudinal response to the series.

**Post-task affectivity.** Participants’ mood states following exposure to either three sexualized or three non-sexualized advertisements were assessed with the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988; see Appendix D). The PANAS consists of two 10-item mood scales that measure positive and negative affect as relatively independent dimensions. Participants were asked to indicate to what extent they felt one of the target emotions right then, that was, at that very moment on a 5-point scale (5 = extremely; 1 = very slightly or not at all). Examples of positive affect items include attentive, enthusiastic, and inspired; examples of negative affect items include distressed, upset, and jittery. Post-task mood was determined by summing the
ratings made for items on each subscale. Thus, the possible range of scores for each affective subscale was 10 to 50. The correlation between the negative affect and positive affect scales is low, ranging from -.12 to -.23, suggesting quasi-independence ($r = .15$ in the current study). The PANAS has been shown to have high internal consistency reliabilities, ranging from .86 to .90 for positive affect and from .84 to .87 for negative affect (Watson et al., 1988). The present investigation achieved a Cronbach’s $\alpha$ of .88 for each subscale and .86 for the full instrument.

*Demographic inventory.* The demographic inventory (see Appendix E) included items designed to collect data regarding characteristics of the sample as a whole. General background information was requested, including participants’ age, race, academic major(s), sexual orientation, political affiliation, height, weight, and current relationship status. A single question asked participants for a subjective rating of their overall sexuality in comparison to other women their own age (Cyranowski & Andersen, 1998).

*Procedure*

The inQsit program (Fortriede & Draper, 1996) was used to conduct the primary investigation, which was presented to participants as an advertising effectiveness study. The true title of the research was not revealed right away because having that knowledge could have shaped responses to stimulus materials. Instead, participants were given the title “Women to Women: Females in Advertising Part II” rather than a title containing any references to sexuality or young women’s sexual self-schemas. If participants were aware that a sexual construct was being measured, there would have been an increased likelihood of falsely presenting themselves in a socially desirable light.
Participants were first required to attend one of several, five-minute group
information sessions advertised online and in recruitment e-mails. At the session,
students provided their BSU e-mail address and signed an informed consent document.
The principle investigator then randomly assigned participants to either the sexualized or
non-sexualized condition before forwarding the appropriate InQsit link to consenting
individuals (i.e., two separate links were created that differed only in the series of
advertisements featured). Students were subsequently tested individually at their own
convenience via computer. Once online, participants were given the same consent-type
background information provided at the group information session and instructed to read
through it carefully before any surveys were administered. InQsit software was able to
display consent language and gave the respondents two buttons. One said “I Consent”
and when clicked revealed the survey. If participants did not fully agree to the consent or
clicked the “I Do Not Consent” button, they were redirected and prevented from
accessing experimental materials.

For participants who did consent, the SSSS was presented first, disguised as a
general personality profile. After completing the SSSS, the corresponding sequence of
three advertisements was presented in a random order to control for order effects. The
first advertisement appeared followed by the two items of the SAM, six attitudinal
adjectives, and manipulation checks. All questions for a given advertisement were posed
on the same computer screen below the image; subsequent screens featured the other two
stimulus advertisements along with the respective dependent measures. Following the
evaluation of the three stimulus advertisements, participants completed the PANAS as a
post-task mood assessment and the demographic inventory. Participants were then
thanked and received credit to help fulfill the research participation requirement for eligible courses. Because a full disclosure was not provided in the written informed consent or online information page, a debriefing form was emailed to students following their participation. This debriefing included information on the true nature of the study, suggestions for further reading, and contact information for the principle investigator, her faculty sponsor, and the student counseling center.

Preliminary Analyses and Design

After data collection was complete, participants were categorized into one of four schema groups based upon their SSSS subscores using the median split procedures described earlier. For the current sample, the mean of the positive schema dimension (i.e., the sum of Factors 1 and 2) was 77.43 \( (SD = 11.60) \), with a median score of 77. The sample mean of the negative schema dimension (i.e., Factor 3) was 20.19 \( (SD = 6.01) \), with a median score of 20. The expected pattern of correlations among the three SSSS Factors was found, providing evidence of their interrelatedness (see Table 1; Andersen & Cyranowski, 1994). Median split categorization resulted in the following group assignments: positive (high positive, low negative scorers; \( n = 53 \)); negative (low positive, high negative scorers; \( n = 56 \)); aschematic (low positive, low negative scorers; \( n = 44 \)); and co-schematic (high positive, high negative scorers; \( n = 40 \)). Participants’ body weight ranged between 97 and 225 pounds \( (M = 140.9, \ SD = 25.6) \) with no significant mean differences among women in the four schema groups, \( F(3, 186) = 1.16, p = .326 \).

Hypotheses were tested utilizing a 2 × 4 between-subjects design, with sex appeal (i.e., sexualized or non-sexualized advertisement series) and schema group (i.e., positive,
Table 1

**SSSS Factor Score Intercorrelations**

<table>
<thead>
<tr>
<th>Scale</th>
<th>$N$</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passionate-Romantic</td>
<td>193</td>
<td>—</td>
<td>.270***</td>
<td>-.141*</td>
</tr>
<tr>
<td>Factor 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open-Direct</td>
<td>193</td>
<td>—</td>
<td></td>
<td>-.286***</td>
</tr>
<tr>
<td>Factor 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embarrassed-Conservative</td>
<td>193</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*$p < .05$. ***$p < .001$. 

negative, aschematic, or co-schematic) serving as independent variables. Separate analyses were conducted with each of the dependent variables: in-task affectivity, attitudinal response, and post-task affectivity. First, a 2 × 4 factorial analysis of variance (ANOVA) was conducted to determine whether or not there was a significant difference in mean attitudinal response to the advertisement series as a function of sex appeal and schema group membership. If main effects for either of the independent variables or their interaction were detected, appropriate post-hoc analyses were conducted with Bonferroni-type adjustments.

Second, two 2 × 4 factorial multivariate analyses of variance (MANOVA) were used to assess in-task affective response (i.e., valence and arousal dimensions of the SAM) and post-task affectivity (i.e., positive and negative affect subscales of the PANAS). If effects were discovered by the omnibus MANOVA test, descriptive discriminant analysis (DDA) was used to identify those dependent variables contributing
to the group differences. Although univariate ANOVAs remain an option to aid interpretation of a significant MANOVA, the technique is not recommended for several reasons (Enders, 2003; Tabachnick & Fidell, 2005). Using a series of ANOVAs inflates the Type I error rate, ignores correlations among dependent variables, fails to detect patterns in the data, and cannot quantify relative group differences on the dependent variables (W. H. Finch, personal communication, January 29, 2009). More importantly, univariate and multivariate procedures address different research questions (i.e., testing individual hypotheses is not the same thing as testing them together in a matrix). An alternative to univariate ANOVAs, the Roy-Bargmann stepdown procedure, was inappropriate because the dependent variables under analysis could not be prioritized by their relative importance. Interpreting DDA output (i.e., structure coefficients and standardized weights) in conjunction with the exploration of group differences in a MANOVA design was deemed the best approach and is advocated by several researchers (e.g., Enders, 2003; Huberty & Olejnik, 2006; Huberty & Petoskey, 2000; Huberty & Smith, 1982).
Chapter 4: Results

Following data collection and prior to analysis, data files were screened for accuracy of data entry, presence of missing values, and outliers. All missing values were determined to be missing at random due to their lack of a predictable, discernible pattern (Tabachnick & Fidell, 2005). Surveys missing more than three responses to target questions were excluded from analysis to protect internal validity. In those situations where only one, two, or three items were left blank, group mean substitution was utilized. Although this is not the optimal method for treating missing data (i.e., some would argue to use the more complex and elaborate technique of multiple imputation; Rubin, 1987; Schafer & Olsen, 1998), there was not a substantial proportion of data missing with which to be concerned. Group mean substitution, instead, is a suitable alternative to other methods including grand mean substitution which tends to be too conservative for inference and prior knowledge which tends to be too liberal (Tabachnick & Fidell, 2005). Two univariate outliers, defined as standardized scores greater in magnitude than 3.29 ($p < .001$, two-tailed test; Tabachnick & Fidell, 2005), were discovered on the PANAS negative affect subscale. To reduce the impact of the outliers, the two cases were reassigned a raw score that was one unit larger than the next most extreme score in the distribution [i.e., the outlying values of 46 (z-score = 4.78) and 40 (z-score = 3.85) were adjusted to 37 to be less deviant from 36 (z-score = 3.22); Tabachnick & Fidell, 2005].
By increasing the raw score by one, data were maintained and their status as outliers preserved.

**In-Task Affective Response**

In-task affective response was assessed in the context of a 2 (sex appeal: sexualized or non-sexualized advertisement series) × 4 (schema group: positive, negative, aschematic, or co-schematic) MANOVA. Histograms and Q-Q plots showed that both dependent variables (i.e., valence and arousal dimensions of the SAM) were normally distributed. The assumption of homogeneity of variance-covariance matrices was assessed with Box’s M test, $F(21, 95798) = 1.43, p = .092$. Because the $p$-value exceeded an alpha of .05, it was safe to assume that the error variances of the dependent variables were equal across groups.

Table 2 displays mean in-task affective response scores by each independent variable and Table 3 includes results from the factorial MANOVA test. There was a significant main effect for sex appeal, Wilks’ $\Lambda = .824, F(2, 184) = 19.585, p < .001$. Holding schema group constant, this result indicates that there was a significant difference between those women exposed to the sexualized advertisement series versus the non-sexualized advertisement series with respect to the composite dependent variable.

A second significant main effect was also discovered for schema group, Wilks’ $\Lambda = .929, F(6, 368) = 2.299, p = .034$. Disregarding the series of advertisements participants viewed, the composite score created by the two dependent variables differed among schemas groups. No interaction was found between sex appeal and schema group, Wilks’ $\Lambda = .962, F(6, 368) = 1.213, p = .298$. Thus, in-task affective response during exposure to either a sexualized or non-sexualized series of images did not vary with schema group.
Table 2

*Mean In-Task Affective Response Scores by Sex Appeal Condition and Schema Group*

<table>
<thead>
<tr>
<th>Condition</th>
<th>n</th>
<th>SAM valence M</th>
<th>SD</th>
<th>SAM arousal M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive schema</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexualized</td>
<td>26</td>
<td>5.24</td>
<td>1.44</td>
<td>4.32</td>
<td>1.87</td>
</tr>
<tr>
<td>Non-sexualized</td>
<td>27</td>
<td>6.28</td>
<td>0.95</td>
<td>4.26</td>
<td>1.73</td>
</tr>
<tr>
<td>Negative schema</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexualized</td>
<td>27</td>
<td>4.28</td>
<td>1.57</td>
<td>3.31</td>
<td>1.47</td>
</tr>
<tr>
<td>Non-sexualized</td>
<td>29</td>
<td>5.82</td>
<td>1.16</td>
<td>3.99</td>
<td>1.61</td>
</tr>
<tr>
<td>Aschematic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexualized</td>
<td>19</td>
<td>4.56</td>
<td>1.36</td>
<td>2.93</td>
<td>1.23</td>
</tr>
<tr>
<td>Non-sexualized</td>
<td>25</td>
<td>5.92</td>
<td>1.04</td>
<td>4.25</td>
<td>1.47</td>
</tr>
<tr>
<td>Co-schematic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexualized</td>
<td>19</td>
<td>5.26</td>
<td>1.68</td>
<td>3.95</td>
<td>1.98</td>
</tr>
<tr>
<td>Non-sexualized</td>
<td>21</td>
<td>6.11</td>
<td>1.22</td>
<td>3.71</td>
<td>1.68</td>
</tr>
</tbody>
</table>

*Note.* SAM = Self-assessment manikin. Participants rated items on a 9-point scale with lower numbers representing lower levels of response.

Table 3

Multivariate Analysis of Variance for In-Task Affective Response

<table>
<thead>
<tr>
<th>Source</th>
<th>Df (Between, Within)</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effect A (Sex Appeal)</td>
<td>2, 184</td>
<td>19.585***</td>
<td>.000</td>
<td>.176</td>
</tr>
<tr>
<td>Main Effect B (Schema Group)</td>
<td>6, 368</td>
<td>2.299*</td>
<td>.034</td>
<td>.036</td>
</tr>
<tr>
<td>Interaction A X B</td>
<td>6, 368</td>
<td>1.213</td>
<td>.298</td>
<td>.019</td>
</tr>
</tbody>
</table>

*p < .05. ***p < .001.*
Because the omnibus MANOVA revealed significant main effects for both sex appeal and schema group, it was necessary to locate relative group differences on the combination of SAM valence and arousal scores. Separate descriptive discriminant analyses (DDA) were performed for each independent variable because the technique is limited to one-way designs (Tabachnick & Fidell, 2005). For sex appeal, the assumption of homogeneity of variance-covariance matrices was assessed with Box’s $M$ test and found to be significant, $F(3, 11283049) = 12.487, p = .006$. Violation of this assumption necessitated the use of a quadratic discriminant analysis, a procedure that allows the covariance matrices to differ between groups (Pardoe, Yin, & Cook, 2007; Tabachnick & Fidell, 2005). Analysis of the sex appeal variable yielded one significant function that contributed to the variation between advertisement conditions, $F(2, 190) = 19.69, p < .0001$, Canonical $R^2 = .172$. The effect size for the discriminant function suggests that approximately 17% of the total variance in in-task affective response can be explained by the series of advertisements viewed. By conventional standards, structure matrix values (i.e., correlations between the individual dependent variables and the linear combination of dependent variables maximizing group differences) should be at least .33, or account for 10% of the variance to be considered interpretable (Tabachnick & Fidell, 2005). Structure values ($r$) in the structure matrix indicated that valence was contributing heavily to the significant MANOVA result ($r = 1.000$). Table 1 shows that participants who were exposed to the non-sexualized series reported feeling happier ($M = 6.03, SD = 1.09$) as they viewed the advertisements than participants exposed to the sexualized series ($M = 4.82, SD = 1.55$). Because the correlation between arousal and the discriminant function
was only .275, this variable was not deemed to be important in differentiating between the two advertisement conditions.

For the schema group variable, the assumption of homogeneity of the variance-covariance matrices with Box’s $M$ test was met, $F(9, 311717) = .808, p = .609$. While a significant main effect was discovered in MANOVA, neither of two discriminant functions reached statistical significance in DDA [$\chi^2(6) = 10.66, p = .099$ for functions 1 through 2; $\chi^2(2) = 1.544, p = .462$ for function 2]. The probable reason for these conflicting findings is that schema group was tested independently in DDA versus with sex appeal and their interaction in MANOVA (W. H. Finch, personal communication, March 3, 2009). Because MANOVA indicated a main effect, interpretation of the DDA output ensued to determine which variable(s) were driving group differences. The first discriminant function correlated highly with both valence ($r = .911$) and arousal ($r = .647$), with valence being relatively more important in separating schema groups. Inspection of group means indicated that on the valence dimension, women with positive sexual self-schemas reported feeling the happiest as they viewed the advertisements ($M = 5.77, SD = 1.31$), followed by co-schematic women ($M = 5.71, SD = 1.50$), aschematic women ($M = 5.33, SD = 1.36$), and negatively schematic women ($M = 5.08, SD = 1.56$). On the arousal dimension, a similar trend in responses was discovered with positively schematic women reporting feeling the most excited and aroused as they viewed the advertisements ($M = 4.29, SD = 1.78$), followed by their co-schematic ($M = 3.83, SD = 1.81$), aschematic ($M = 3.68, SD = 1.51$), and negatively schematic counterparts ($M = 3.66, SD = 1.57$). This pattern of results supported hypotheses that scores of the aschematic and co-schematic groups would fall between the more extreme
scores of the positive and negative groups. No interaction effects, however, were discovered. Although positively schematic women reported more happiness and excitement as they viewed advertisements relative to the negatively schematic women, this effect was evident across both series of images.

Attitudinal Response to Advertisements

Attitudinal response to the series of advertisements was investigated in the context of a 2 (sex appeal: sexualized or non-sexualized advertisement series) × 4 (schema group: positive, negative, aschematic, or co-schematic) ANOVA. A histogram and Q-Q plot showed that the dependent variable was normally distributed. The assumption of equal variance was checked with Levene’s test for equality of variances, \( F(7, 185) = 2.588, p = .014 \). Because the test failed to exceed an alpha of .05, the Games-Howell post-hoc procedure was utilized following significant main effects because it accommodates both unequal variances and cell sizes (Games & Howell, 1976).

Table 4 displays mean attitudinal response scores by each independent variable and Table 5 includes results from the factorial ANOVA test. There was a significant main effect for sex appeal, \( F(1, 185) = 39.61, p < .001 \). Holding schema group constant, this result indicates that there was a significant difference between groups of women as a function of the advertisement series viewed. A second significant main effect was also revealed for schema group, suggesting that after controlling for advertisement series, mean attitudinal response differed among women based upon their sexual self-schemas, \( F(3, 185) = 3.755, p = .012 \). Finally, contrary to hypotheses, no interaction was found between sex appeal and schema groups, \( F(3, 185) = .166, p = .919 \). Data indicated that mean attitudinal response to either a sexualized or non-sexualized series of
Table 4

Mean Attitudinal Response Scores by Sex Appeal Condition and Schema Group

<table>
<thead>
<tr>
<th></th>
<th>Positive</th>
<th>Negative</th>
<th>Aschematic</th>
<th>Co-Schematic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S</td>
<td>NS</td>
<td>S</td>
<td>NS</td>
</tr>
<tr>
<td>n</td>
<td>26</td>
<td>27</td>
<td>27</td>
<td>29</td>
</tr>
<tr>
<td>M</td>
<td>25.10</td>
<td>30.67</td>
<td>21.26</td>
<td>27.47</td>
</tr>
<tr>
<td>SD</td>
<td>6.93</td>
<td>5.09</td>
<td>7.44</td>
<td>4.63</td>
</tr>
</tbody>
</table>

Note. S = sexualized advertisement condition. NS = non-sexualized advertisement condition. Scores represent the summation of six adjective ratings, averaged across advertisement series. All items were posed on 7-point scales where 7 = very and 1 = not at all, with higher numbers indicating more favorable responses.

Table 5

Analysis of Variance for Mean Attitudinal Response

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F</th>
<th>Partial $\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effect A (Sex Appeal)</td>
<td>1372.04</td>
<td>1</td>
<td>1372.04</td>
<td>39.61***</td>
<td>.176</td>
</tr>
<tr>
<td>Main Effect B (Schema Group)</td>
<td>390.22</td>
<td>3</td>
<td>130.07</td>
<td>3.76*</td>
<td>.057</td>
</tr>
<tr>
<td>Interaction A X B</td>
<td>17.28</td>
<td>3</td>
<td>5.76</td>
<td>0.17</td>
<td>.003</td>
</tr>
<tr>
<td>$S$ within-group error</td>
<td>6408.84</td>
<td>185</td>
<td>34.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>138069.78</td>
<td>193</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. $S$ = subjects.

*p < .05. ***p < .001.
advertisements did not differ across schema groups.

Because the omnibus ANOVA revealed significant main effects for both sex appeal and schema group, it was necessary to locate relative group differences in mean attitudinal response. Post-hoc tests could not be performed for the sex appeal variable because it consisted of only two levels. An independent-samples t-test with equal variances not assumed, therefore, was conducted. Analysis revealed that participants viewing the non-sexualized images reported significantly more favorable attitudes toward the advertisements \( (M = 28.49, SD = 4.73) \) than participants viewing the sexualized images \( [M = 23.08, SD = 7.12; t(153.6) = 6.15, p < .000] \). The Games-Howell post-hoc procedure was used to locate differences among schema groups. It was predicted that positively schematic women would evaluate the sexualized series more favorably than the negatively schematic women. Analysis revealed that women with positive sexual self-schemas \( (M = 27.94, SD = 6.63) \) reported significantly more favorable attitudes toward the advertisement series compared to women with negative sexual self-schemas \( (M = 24.48, SD = 6.85; p = .042) \). Further evidence to support this finding is that zero did not appear within the 95% confidence intervals. No other significant mean differences in attitudinal reaction were found among schema groups. Thus, while positively schematic women reported liking the advertisements more, the series they were exposed to was not important.

*Post-Task Affectivity*

Post-task affectivity was assessed in the context of a 2 (sex appeal: sexualized or non-sexualized advertisement series) × 4 (schema group: positive, negative, aschematic, or co-schematic) MANOVA. While histograms and Q-Q plots showed that the positive
affect subscale was normally distributed, the negative affect subscale was positively skewed. Data transformation was avoided to preserve the fundamental nature of the variable (i.e., the vast majority of women reported little distress or irritability following participation) and its interpretability relative to the positive affect subscore. Furthermore, despite the assumption of normality being untenable, the MANOVA design has proven to be quite robust to violations (Finch, 2005; Mardia, 1971; Tabachnick & Fidell, 2005). The assumption of homogeneity of variance-covariance matrices was assessed with Box’s $M$ test, $F(21, 95798) = 2.15$, $p = .002$. Because the test revealed heterogeneity across groups, the more robust Pillai’s criterion was utilized instead of Wilks’ lambda to evaluate multivariate significance (Meyers, Gamst, & Guarino, 2006; Olson, 1979; Tabachnick & Fidell, 2005).

Table 6 displays mean post-task affectivity scores by each independent variable and Table 7 includes results from the factorial MANOVA test. No effect was found for the series of images viewed by participants, Pillai’s $= .030$, $F(2, 184) = 2.805$, $p = .063$. Across all schema groups, no differences in mood existed following participation between women exposed to the sexualized or non-sexualized advertisements. On the other hand, a significant main effect was revealed for schema group, Pillai’s $= .090$, $F(6, 370) = 2.919$, $p < .01$. Disregarding the advertisement sequence participants viewed, the combined affective subscores differed among women as a function of their sexual self-schemas. Again, data did not support initial hypotheses regarding an interaction between sex appeal and schema group, Pillai’s $= .027$, $F(6, 370) = .846$, $p = .535$. Post-task affectivity following exposure to either a sexualized or non-sexualized series of advertisements did not vary with schema group.
Table 6

*Mean* Post-Task Affectivity *Scores by Sex Appeal Condition and Schema Group*

<table>
<thead>
<tr>
<th>Condition</th>
<th>PANAS positive</th>
<th></th>
<th>PANAS negative</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Positive schema</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexualized</td>
<td>26</td>
<td>23.15</td>
<td>8.01</td>
<td>14.81</td>
</tr>
<tr>
<td>Non-sexualized</td>
<td>27</td>
<td>27.33</td>
<td>8.74</td>
<td>12.41</td>
</tr>
<tr>
<td>Negative schema</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexualized</td>
<td>27</td>
<td>20.04</td>
<td>6.09</td>
<td>16.96</td>
</tr>
<tr>
<td>Non-sexualized</td>
<td>29</td>
<td>22.38</td>
<td>7.36</td>
<td>16.28</td>
</tr>
<tr>
<td>Aschematic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexualized</td>
<td>19</td>
<td>25.11</td>
<td>7.72</td>
<td>16.42</td>
</tr>
<tr>
<td>Non-sexualized</td>
<td>25</td>
<td>22.84</td>
<td>7.76</td>
<td>13.68</td>
</tr>
<tr>
<td>Co-schematic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexualized</td>
<td>19</td>
<td>24.26</td>
<td>9.11</td>
<td>16.84</td>
</tr>
<tr>
<td>Non-sexualized</td>
<td>21</td>
<td>24.76</td>
<td>9.13</td>
<td>15.67</td>
</tr>
</tbody>
</table>

*Note.* PANAS = Positive and negative affect schedule. Scores represent the summation of ratings on two subscales with ten words each. All items were posed on 5-point scales where 5 = *extremely* and 1 = *very slightly or not at all*, with lower numbers representing lower levels of response.

Table 7

*Multivariate Analysis of Variance for Post-Task Affectivity*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Between, Within)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effect A (Sex Appeal)</td>
<td>2, 184</td>
<td>2.805</td>
<td>.063</td>
<td>.030</td>
</tr>
<tr>
<td>Main Effect B (Schema Group)</td>
<td>6, 370</td>
<td>2.919**</td>
<td>.009</td>
<td>.045</td>
</tr>
<tr>
<td>Interaction A X B</td>
<td>6, 370</td>
<td>0.846</td>
<td>.535</td>
<td>.014</td>
</tr>
</tbody>
</table>

**$p < .01$.**
A significant main effect for schema group required DDA to discern relative

group differences on the combination of PANAS positive and negative affect scores. The
assumption of homogeneity of variance-covariance matrices was assessed with Box’s $M$
test and found to hold, $F(9, 311717) = 1.566, p = .119$. Inspection of the sexual self-
schema variable yielded two discriminant functions, only one of which was significant.
With both functions included, the relationship between groups and predictor variables
was unlikely to be due to chance, $F(6, 376) = 2.86, p = .009$, Canonical $R^2 = .08$. Output
showed that this first function accounted for 91.9% of the between-group variability,
while the insignificant function accounted for the remaining 8.1%. When the first
function is removed, there was no longer a reliable relationship between groups and
PANAS scores, $F(2, 189) = .62, p = .538$. Loadings in the structure matrix revealed that
positive and negative affect were contributing equally to the significant MANOVA result.
The first function correlated highly with both in opposite directions ($r = -.626$ for
negative affect; $r = .649$ for positive affect), providing evidence for the independence of
affective valence (Sengupta & Dahl, 2008; Watson et al., 1988).

Inspection of group means indicated that women with positive sexual self-
schemas reported feeling the most positive affect after viewing the advertisements ($M =
25.28, SD = 8.58$), followed by co-schematic women ($M = 24.53, SD = 9.00$), aschematic
women ($M = 23.82, SD = 7.73$), and negatively schematic women ($M = 21.25, SD =
6.82$). In regard to negative emotion, a nearly opposite trend emerged. Negatively
schematic women reported feeling the most negative affect after viewing the images ($M =
16.61, SD = 7.08$), followed by their co-schematic ($M = 16.23, SD = 6.99$), aschematic ($M$
$= 14.86, SD = 5.92$), and positively schematic peers ($M = 13.58, SD = 5.29$). This pattern
of results supported hypotheses that positively schematic women would report greater post-task positive affectivity and less post-task negative affectivity compared to negatively schematic women. The lack of interaction suggests that the advertisement series was irrelevant to these results; women with positive sexual self-schemas experienced a more positive emotional response after viewing any type of advertisement. Finally, similar to in-task affectivity, scores of the aschematic and co-schematic groups fell between the more extreme scores of the positive and negative groups.
The current study investigated how young women’s sexual self-schemas influence emotional and attitudinal responses to sexualized and non-sexualized female imagery appearing in *Cosmopolitan* magazine. Prior research has already documented distinct behavioral patterns and consistent group differences in sexual-romantic affect (Andersen & Cyranowski, 1994; Cyranowski & Andersen, 1998, 2000). For instance, women with well-developed sexual self-views (i.e., positive and negative types) are able to recall schema-consistent personal experiences with greater ease when compared to women with less well-defined sexual self-views (i.e., co-schematic and aschematic types; Cyranowski & Andersen, 2000). It was predicted that sexualized advertising would serve a similar role in priming the schema-consistent positive dimension of positively schematic women and schema-inconsistent negative dimension of the negatively schematic women.

Contrary to previous findings (e.g., Reichert et al., 2007), the current study provides preliminary evidence suggesting that sexual self-schemas do have some effect on how young women feel during exposure to same-sex images and afterward.

Regarding in-task affective response, it was hypothesized that young adult women with relatively positive sexual self-schemas would experience more positive affect (i.e., increased pleasure and arousal) while viewing sexualized female imagery compared to women with relatively negative sexual self-schemas, who would experience more
negative affect (i.e., decreased pleasure and arousal). Data did not support predictions for an interaction effect and, instead, yielded independent main effects. Young women who viewed the non-sexualized series of advertisements reported feeling happier as they viewed the images, regardless of their sexual self-schema, than young women exposed to the sexualized series. The arousal dimension of the SAM was not important in discriminating between women viewing advertisements featuring varying degrees of sex appeal. Although analysis identified significant differences among schema groups in in-task affective response, follow-up DDA failed to yield statistically significant functions. Interpretation of the structure matrix, nevertheless, suggested that both valence and arousal were contributing to group separation, with valence serving a relatively more important role. Positively schematic women reported feeling happier and more excited as they viewed advertisements, irrespective of the images’ explicitness, while negatively schematic women reported feeling unhappier and more sluggish. Providing evidence to confirm initial hypotheses, responses of the aschematic and co-schematic women fell between the more extreme scores of the positive and negative groups. Contrary to predictions, however, women in different schema groups did not respond differentially to the two advertising conditions.

Of additional interest were participants’ attitudes toward the advertisement series. Again, two main effects were discovered but no interaction was observed. Ignoring the effect of schema group, women who were exposed to the sexualized advertising reported significantly less favorable attitudes toward the images than women who viewed the less explicit appeals. These results were in accordance with those obtained by Sengupta and Dahl (2008), suggesting that women, on average, evaluate the use of sexual appeals more
negatively than non-sexual appeals. Disregarding the sexual or non-sexual nature of the advertisement series, participants with positive sexual self-schemas reported significantly more favorable attitudes toward the images than women with negative sexual self-schemas. The lack of an interaction suggests that attitudinal differences among women with varying sexual self-views do not change depending upon the explicitness of the advertisements viewed – no one actually liked the sexualized advertisements.

The final stage of the experiment included the PANAS, an instrument consisting of two 10-item mood scales that measure positive and negative affect as relatively independent dimensions (Watson et al., 1988). Only one main effect was found for schema group; no effect of advertisement series or interaction was discovered. For the main effect of schema group, both positive and negative affect contributed to separating the groups, albeit in opposite ways. Consistent with hypotheses, women with positive sexual self schemas reported greater positive (e.g., enthusiastic, alert) and less negative (e.g., upset, guilty) affect following participation – regardless of the series viewed – compared to the other three groups. On the other hand, women with negative views of their own sexuality reported feeling less positive and more negative after exposure. Because the explicitness manipulation was not found to have an effect, perhaps the simple act of looking at images of other women was enough to induce a negative mood state among this group. It did not matter whether or not the featured models were wearing modest clothing or provocative attire – negatively schematic women felt negative.

Limitations and Future Directions

Please note that participant responses to open-ended items will be used throughout the following sections to help illustrate key points. All verbatim sentiments
will be acknowledged within quotation marks and prefaced with appropriate identification (e.g., one participant stated…). With that clarification, the current study was not without limitations. For instance, caution must be taken when generalizing findings from volunteer college students to the larger population of young women. Conducting future research with a more differentiated sample that accounts for differences in age (e.g., older women might express even more negativity toward sexualized imagery than their younger counterparts), relationship status (e.g., married women may feel less threatened than single women when viewing explicit imagery), and sexual orientation (e.g., response patterns of lesbian and bisexual women might differ from those obtained among heterosexual women) may provide a more comprehensive understanding of the link between exposure to sexualized and non-sexualized advertising and sexual self-schema.

Another concern with the present research is that the majority of participants reported very low levels of negative affect following exposure to the advertisement series. From a practical and psychological health perspective, the finding that women do not experience distress after flipping through a magazine is good news. Perhaps young women have grown desensitized to the pervasiveness of female imagery and have accepted the current media landscape as a fact of daily living (e.g., one participant commented “I feel like the advertisements look like the ones in everyday magazines, so the impact of a half naked girl does not bother me anymore”). From a computational standpoint, however, the abundance of scores on the low end of the PANAS subscale resulted in a positively skewed distribution and unequal variances among the experimental groups. This less-than-ideal spread of scores may pose problems for
statistical inference and data interpretation (Malgady, 2007). The advertising literature suggests that consumers typically process advertisements in a fairly cursory manner with little elaboration (e.g., Peracchio & Luna, 2006; Sengupta & Dahl, 2008; Sengupta & Gorn, 2002). It is feasible that the young women did not deliberatively process the advertisements or that the sex appeal manipulation was insufficient to elicit a response. Future research may benefit from utilizing stronger stimulus materials or controlling the length of exposure to a given image, thus, encouraging deeper processing.

An additional concern related to the stimulus materials was the apparent shift in perceptions of sex appeal. Although the two series remained significantly different from one another, ratings obtained during the pilot phase were more extreme than those obtained during the primary investigation (which were closer to the moderate center of the scale). Null findings might partially be explained by a lack of comparison between the sexual and non-sexual appeals. Young women who viewed only the non-sexualized series were provided the same questions as those posed to the young women who viewed the sexualized series – questions related to sexual ideals and sexual desire. Simply mentioning the word “sex” may have primed participants in the non-sexualized condition to view the models in a more provocative light, even if they were advertising feminine hygiene products. Future investigations might have young women view both types of advertisements with the caveat that doing so might obscure the interpretation of findings (i.e., parceling out which images are eliciting a given reaction may prove difficult). Finally, social comparison processes must be considered because young women may be engaging in upward comparisons and viewing even the non-sexualized models as a physically attractive ideal (see Festinger, 1954; e.g., one participant stated “It is a pretty
girl and if anything it drives me to want to look good too”). Research has identified distinct affective reactions as a consequence of different types of comparisons and degrees of perceived discrepancy from comparison targets (e.g., Higgins, Bond, Klein, & Strauman, 1986; Kruglanski & Mayseless, 1990; Major, Testa, & Blysma, 1991; Taylor & Lobel, 1989).

Limitations arising from instrumentation decisions are also important to acknowledge. First, the SSSS was scored according to the original median split procedures described by Andersen and Cyranowski (1994). This method categorizes women as either high or low on the positive and negative schema dimensions, essentially altering the observed data and diminishing individual differences. Some researchers argue that dichotomizing predictor variables in this manner has undesirable consequences, is rarely valid, and often leads to deceptive results (e.g., Irwin & McClelland, 2003; MacCallum, Zhang, Preacher, & Rucker, 2002). If there is little variability in participants’ scores, two individuals falling in the middle of the distribution may be classified into separate halves even if no significant difference exists between them. Second, in-task affective response was measured with two, single-item scales. Although such measures are efficient and easy to use, relying upon only one item threatens both reliability and validity (Loo, 2002). Spector (1992) observed that single-item assessments of complex constructs are unsatisfactory because they lack precision, tend to change over time, and are limited in scope. Future researchers would benefit by expanding the measurement of in-task valence and arousal to include multiple items and non-pictorial stimuli (i.e., one participant commented “I feel as though relating emotions to pictures is a difficult task”).
Collecting data on-line via a web-based survey tool introduces potential confounding variables, inadvertent contextual cues (e.g., distractions, magazines in a bedroom, etc.), and raises issues over the validity of participants’ responses. First, because young women were sent a hyperlink after attending one of the information sessions, they were free to complete the study from any location at any time. In a more controlled environment, extraneous factors like the presence of other people would have been controlled for to protect internal validity. Second, the young women sampled may have experienced some detachment from the stimulus materials (e.g., one participant noted, “Since she is the stereotypical blonde with large perfect breasts and I am not, I felt like this ad did not appeal to me at all.”). Future investigators might consider having participants actually experience the print medium by looking through a concrete magazine rather than analyzing images displayed on a computer screen. Third, it is also possible that in the absence of the principal investigator, some participants did not feel obligated to answer questions thoughtfully. To partially alleviate this problem, the final question in the demographic inventory prompted participants to select one of two statements: “I took the surveys seriously – use my information in the study” or “I did NOT take the survey seriously – throw out my information.” The three individuals who chose the latter option were, indeed, three of the individuals removed from analysis due to missing data.

_Implications and Applications_

Advertising may be conceptualized as an applied form of persuasion which attempts to position, convince, reinforce, differentiate, and ultimately sell products and services (Reichert, 2002). More and more campaigns are now integrating sexual
information into persuasive messages in the hopes of capturing consumers’ attention and boosting monetary profits. As the current findings suggest, however, variability exists among women in their reactions to sexualized and non-sexualized advertising. Sengupta and Dahl (2008) found similar intragender variation and suggest that such information can be advantageous in identifying those market segments that are likely to be more receptive to sexually themed campaigns. Using sexuality to sell products should not be a haphazard endeavor; instead, it should be an informed process whereby advertisers are aware of explicit appeals’ relative effectiveness and consequences among target consumers. Reichert (2007) outlines three strategic uses of sexuality in media promotions that may inform professionals, in addition to the current findings.

First, due to their emotional appeal and vividness, sexual images gain consumers’ attention and get messages noticed (Reichert, 2007; Reichert, Heckler, & Jackson, 2001; Severn et al., 1990). Although pressure is strong to stand apart from the competition, a sexualized advertisement may elicit confusion. Several participants indicated in their open-ended responses that they had little idea of what was being sold (e.g., “…as the saying goes ‘sex sells’ but, what are they trying to sell here?” and “it is not even promoting the clothing which is annoying it is only advertising sex”). Current findings point to the importance of relevance, or the appropriateness of the link between the product category and the use of sexuality. Indeed, Peterson and Kerin (1977) examined reactions to advertisements featuring a female model in varying states of undress (i.e., “nude,” “seductive,” “demure”). The authors found that as nudity increased in advertisements for an irrelevant product (i.e., a wrench set), evaluations for the advertisement, brand, and manufacturer all decreased. Of particular interest is the fact
that both genders evaluated a seductive model (i.e., a moderate sex appeal) advertising a relevant product (i.e., body oil) the most positive of all experimental images. The response of one positively schematic woman in the present study reflected this sentiment: “Because the model in this picture is more covered up, there is more of a mystery about her, which I find very sexy.” A more recent study found that women responded favorably to sex appeals when there was a strong connection between the advertisement and brand (Putrevu, 2008). Beyond individual differences, it appears that gaining attention works best when the sex appeal is moderate and perceived as appropriate to the product.

Second, Reichert (2007) indicates that sexuality holds hedonic value by appealing to consumers’ needs and wants. Research by Reichert and Lambiase (2003) has identified common promises made by advertisers to those consumers who purchase and use their product. For example, if a young woman buys and wears a given perfume, she will be more sexually attractive, feel sexier, be more likely to engage in sexual behavior, and receive more satisfaction from intimate encounters. Responses to the open-ended items in the current project revealed that a few young women recognized advertisers’ promises (Reichert & Lambiase, 2003). For instance, one individual noted, “People usually want what people they look up to and respect have. So I think it’s very effective.” Many of the sentiments regarding the sexualized imagery, however, were less affirmative and more pessimistic. Sentiments of those participants who offered verbatim responses reflected insecurity (e.g., “These women have great bodies, and it makes the rest of us feel like absolute crap when we see them and then compare our own bodies”), resistance (e.g., “I think it’s ridiculous to use naked women to advertise to women...It makes me not want to buy the product at all...”), and confusion (e.g., “...I don't get how that is supposed to make
me want to buy whatever it is that it is selling”). While some women may feel motivated to purchase a product for enhanced sexual esteem, it seems more plausible that the majority of women desire alternative outcomes. Future investigations might consider what motivates young women to buy body-enhancing (e.g., beauty, health, fitness, and nutrition) products and whether these motivations vary by sexual self-schema.

Third, enhancing the association between sexual information and emotional response might elicit more favorable attitudes toward the advertisement and brand (Reichert, 2007). The present findings generally did not support this supposition. Depending upon characteristics of the target population, it is recommended that marketers assess how the consumers most likely to buy their products feel in regard to their sexuality before appealing to them with sex appeals. The current study revealed that women in the sexualized condition, specifically, reported feeling unhappy as they viewed the images and espoused less favorable attitudes toward the images than young women exposed to the less explicit images. If a company is pursuing positively schematic women and using sex appeals, however, feelings of happiness, excitement, and favorable attitudes are more likely to be elicited (it should be noted that these women responded more positively to both advertising series). Reaching negatively schematic women might require more planning and careful thought due to their more conservative orientation toward sexuality.

Summary

This research sought to examine how women’s sexual self-schemas influence emotional and attitudinal reactions to sexualized and non-sexualized female imagery featured in a mainstream women’s magazine. Although no interactions between sexual
self-schema and the advertisement series were found, data revealed consistent main effects for image explicitness and schema group. First, participants who viewed the non-sexualized series felt happier as they viewed the images and reported more favorable attitudes toward the advertisements compared to those who viewed the sexualized series. Due to the images’ explicit nature, a few young women even commented that they would expect to find the sexualized advertisements featured in male-friendly magazines as opposed to publications marketed toward other women. Second, positively schematic women reported feeling the happiest and most excited as they viewed the advertisements, evaluated the images more favorably, and felt the most positive affect following exposure relative to all other schema groups. Conversely, negatively schematic women reported feeling the least happy and more sluggish as they viewed the series, liked the advertisements less, and felt the most negative affect following exposure. The bottom line is that no one actually expressed liking the sexualized female imagery appearing in women’s magazines.

Williamson (1994) suggests that consumers identify with models featured in advertising images and, thus, connect certain emotions, experiences, and sensations with specific products and brands. Indeed, one young woman commented, “…when I think of Jordache, I think about many of the clothes that I used to wear as a kid.” Yet, the present data showed that much of the consumer audience did not respond favorably to sexualized female advertising or draw positive associations between sexuality and the products (e.g., “Products should show their own quality and uniqueness to attract the consumer, not the computer-fixed picture of a woman” and “I am disgusted to view such blatantly immodest advertisements. I have seen them in other campaigns from famous, popular
retailers, however, they do not attract me.’”). If women truly relate to the models depicted, then female imagery in women’s magazines should be more responsive to social change than imagery appearing in other media channels (Tuchman, Daniels, & Benét, 1978).

While some women are receptive to sex appeals, the current project suggests that young women respond more favorably to non-sexualized female imagery. Future research will assist marketing professionals in reaching consumers in the most appropriate and effective manner. Judging by the following quote from one participant, sexuality does not always sell the product:

> I understand that there is the idea that [sexy female models] will prove to attract more attention to the advertisement and subconsciously give women the idea that the product will help you look like that, however, I have never personally been drawn to purchasing the product that they are advertising.

In conclusion, marketing professionals are advised to consider the likely affective and attitudinal reactions among target female segments before appealing to them with explicit imagery – failing to do so may elicit unintended responses and even resistance to the product or brand.
References


http://www.cosmopolitan.com/magazine/about/cosmo-masthead


Appendix A

Pilot Study Questions

1. Please view the advertisement below and answer the questions that follow.

*1 of 20 advertisements selected from *Cosmopolitan* was displayed randomly*

2. Have you seen this advertisement before today? _____ Yes _____ No

3. Please answer the next items using the 7-point scale below:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Extremely</td>
</tr>
</tbody>
</table>

   a. In your opinion, how *sexy* is the female model in this advertisement?

   b. In your opinion, how *sexually desirable* is the female model in this advertisement?

   c. In your opinion, how well does the female model in this advertisement represent the *sexually ideal female*?

   d. Prior to viewing this advertisement today, how familiar with the *product* were you?

   e. Prior to viewing this advertisement today, how familiar with the *advertising campaign* were you?

4. Please share any additional comments you have regarding the female model in this advertisement.

*Note.* This sequence of four questions was repeated with each of the 20 advertisements
Appendix B

Sexual Self-Schema Scale (SSSS)

Describe Yourself

Directions: Below is a listing of 50 adjectives. For each word, consider whether or not the term describes you. Each adjective is to be rated on a scale ranging from $0 = \text{not at all descriptive of me}$ to $6 = \text{very much descriptive of me}$. Choose a number for each adjective to indicate how accurately the adjective describes you. There are no right or wrong answers. Please be thoughtful and honest.

Question: To what extent does the term ________ describe me?

Rating Scale:

<table>
<thead>
<tr>
<th>Not at all descriptive</th>
<th>0</th>
<th>1</th>
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Note. The true title of the instrument was not revealed to respondents. Scoring instructions: The 26 Sexual Self-Schema Scale items are in italics. Factor scales are calculated by summing ratings on the items listed above. Item 45 is reverse keyed. Factor 1 = 5, 11, 20, 35, 37, 39, 44, 45, 48, and 50; Factor 2 = 2, 6, 9, 13, 16, 18, 24, 25, and 32; Factor 3 = 3, 8, 22, 28, 31, 38, and 41.
Appendix C

Self-Assessment Manikin (SAM)

Directions: Please select the picture for each item that best describes how you feel as you view this advertisement.

1.

2.

Note. Item one pertains to the valence rating dimension and item two pertains to the arousal dimension. Scores on each item will be reverse keyed so that lower scores indicate lower levels of response.
Appendix D

The Positive and Negative Affect Schedule (PANAS)

Directions: This scale consists of a number of words that describe different feelings and emotions. Read each item and then choose the appropriate number using the scale below to represent your answer. Please indicate to what extent you feel this way right now, that is, at the present moment.

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<th>3 moderately</th>
<th>4 quite a bit</th>
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_____ interested
_____ distressed
_____ excited
_____ upset
_____ strong
_____ guilty
_____ scared
_____ hostile
_____ enthusiastic
_____ proud

_____ irritable
_____ alert
_____ ashamed
_____ inspired
_____ nervous
_____ determined
_____ attentive
_____ jittery
_____ active
_____ afraid

Note. Items on the positive affect subscale are in italics, while all other items are included within the negative affect subscale.
Appendix E
Demographic Inventory

Directions: The following questions ask about general background information. Please answer the items honestly since these data will be used to describe average characteristics of the entire sample.

1. Please indicate your biological sex:
   _____ Male
   _____ Female

2. What is your age in years? _____

3. Year in school (please select one):
   _____ Freshman
   _____ Sophomore
   _____ Junior
   _____ Senior
   _____ Graduate Student

4. Academic Major(s) and/or Minor(s): ______________________________

5. Are you an international student?
   _____ Yes
   _____ No

6. What is your race? Pick as many as apply to you.
   _____ American Indian or Alaska Native
   _____ Asian American
   _____ Black or African American
   _____ Caucasian or White
   _____ Native Hawaiian or other Pacific Islander
   _____ Hispanic (non-White) or Latina
   _____ I choose not to answer
   _____ Other (please specify): ________________________________

7. Which of the following commonly used terms would you use to best describe your sexual orientation now?
   _____ Heterosexual/Straight
   _____ Homosexual/Lesbian/Gay
   _____ Bisexual
   _____ I choose not to answer
   _____ Other (please specify): ________________________________
8. Please select the item(s) that best represent your current relationship status. Select all that apply:

_____ Single
_____ Dating exclusively with one partner
_____ Never been married but involved with a romantic partner in a committed relationship
_____ Polyamorous (multiple and simultaneous romantic partners)
_____ Engaged
_____ Cohabitating (living with a romantic partner to whom you are not married)
_____ Married
_____ Married but Separated
_____ Divorced
_____ I choose not to answer
_____ Other (please specify): _______________________

9. If you are currently in a committed, romantic relationship, how long have you been in the relationship (approximate number of months): _____ months

10. Overall, how would you describe your political beliefs?

1 2 3 4 5 6 7
Extremely Liberal Moderate Extremely Conservative
Left

11. Height in inches: _____

12. Weight in pounds (lbs.): _____

13. Compared to other women about your age, how would you rate yourself as a sexually attractive woman?

_____ I am MUCH LESS sexually attractive
_____ I am LESS sexually attractive
_____ I am SOMEWHAT LESS sexually attractive
_____ I am about as sexually attractive as most women my age
_____ I am SOMEWHAT MORE sexually attractive
_____ I am MORE sexually attractive
_____ I am MUCH MORE sexually attractive

14. In your opinion, how passionate are you in regard to your sexuality?

1 2 3 4 5 6 7
Not at all Extremely Passionate
Passionate
15. In your opinion, how romantic are you in regard to your sexuality?

1  2  3  4  5  6  7
Not at all Romantic

16. In your opinion, how open are you in regard to your sexuality?

1  2  3  4  5  6  7
Not at all Open

17. In your opinion, how direct are you in regard to your sexuality?

1  2  3  4  5  6  7
Not at all Direct

18. In your opinion, how embarrassed are you in regard to your sexuality?

1  2  3  4  5  6  7
Not at all Embarrassed

19. In your opinion, how conservative are you in regard to your sexuality?

1  2  3  4  5  6  7
Not at all Conservative

20. How frequently do you read magazines for leisure?

_____ Less than once a year
_____ Once a year
_____ Once every 6 months
_____ Once a month
_____ A few times a month
_____ Weekly
_____ Daily

21. Please select all of the magazine(s) that you have read at least once in the LAST MONTH.

_____ Allure
_____ Cosmopolitan
_____ Elle
_____ Fitness
22. Overall, how do you feel about the use of sexy female models in advertising?

1 2 3 4 5 6 7
Extremely Negative Neutral Extremely Positive

23. In your own words, please share any THOUGHTS and/or FEELINGS you have about this research project. Feel free to respond as honestly as possible in the space provided below.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

24. Sometimes people fill out surveys but do not take them seriously and just fill in answers that may not be accurate. We do not want to use these in the study. Please choose one of the statements below:

______ I took the survey seriously – use my information in the study
______ I did NOT take the survey seriously – throw out my information