The Influence of Religious Orientation, Spiritual Well-Being, Educational Setting, and Social Comparison on Body Image and Eating Disturbance in Jewish Women

by

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Abstract

THE INFLUENCE OF RELIGIOUS ORIENTATION, SPIRITUAL WELL-BEING, EDUCATIONAL SETTING, AND SOCIAL COMPARISON ON BODY IMAGE AND EATING DISTURBANCE IN JEWISH WOMEN

by

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While numerous sociocultural influences have been proposed in the etiology of eating disorders, the roles of religion and religious orientation have largely been ignored and have tended to exclude Jewish women. This study explores the roles of religious orientation, spiritual well-being, social comparison, and educational setting on the development of body image and eating disturbance among Jewish women. Participants included 301 adolescent and young adult Jewish women recruited from two colleges and one Yeshiva high school in the New York City area. Study results showed that religious orientation had a strong influence on body dissatisfaction and eating disturbance as well as on other sociocultural variables that serve as predictors of eating disturbance. Participants with an intrinsic religious orientation had consistently lower scores (indicating less pathology) on measures of body dissatisfaction, eating disturbance, thin-ideal internalization, adherence to the Superwoman Ideal, and measures of social comparison as compared to those with an extrinsic, pro-religious, or anti-religious orientation. Sociocultural attitudes towards appearance and endorsement of the Superwoman Ideal mediated the relationship observed between religious orientation and eating disorder symptomatology. Educational setting did not influence scores of body

dissatisfaction or eating disturbance while those who attended all-girls schools had higher levels of adherence to the Superwoman Ideal and thin-ideal internalization as compared their coed school counterparts. These findings can be used to design therapeutic/and or experimental interventions for encouraging an intrinsic religious orientation in order to promote positive body image and decrease risk factors for disordered eating among Jewish women.

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Dr. Laura A. Rabin and Dr.Arthur S. Reber

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Introduction

Background Information on Eating Disorders

In the past two decades the incidence of eating disorders (EDs) such as anorexia nervosa and bulimia nervosa has increased dramatically across the United States and Europe (Brumberg, 2000; Keel & Klump, 2003; Smith, Richards, & Maglio, 2004; Walsh & Devlin, 1998). While EDs existed as rare diseases for centuries, the vast spread of media influences idealizing an ultra-thin and largely unattainable standard of beauty has popularized EDs and brought them into the mainstream. Anorexia and bulimia are recognized as distinct yet similar entities, and both include a profound preoccupation with food and weight, an intense fear of gaining weight, and a distorted body image. Eating disorders are much more prevalent among women than men (approximately a 10:1 ratio of women to men), and usually begin during adolescence or young adulthood (Brumberg, 2000; Hudson, Hiripi, Pope, & Kessler, 2007; Keel & Klump, 2003; Walsh & Devlin, 1998). The mortality rates for EDs are among the highest of any psychiatric disorder with 10-20% of those afflicted eventually dying as a result of medical complications or suicide (Södersten, Bergh, & Zandian, 2006).

As a result of the surge in prevalence and severity of EDs, research has focused on the daunting yet imperative task of teasing apart the various etiolological factors and precursor conditions of EDs, including body dissatisfaction. Researchers now realize that EDs are fundamentally biopsychosocial illnesses, and that a true understanding of them will come only from an investigation of their biomedical, psychological, social, and cultural components (Brumberg, 2000; Keel, Baxter, Heatherton, & Joiner, 2007; Walsh & Devlin, 1998). As a result, since the early 1980s physicians, psychologists,

sociologists, anthropologists, and historians alike have been invested in understanding body dissatisfaction and preoccupation with weight and appearance. Another goal is to determine how and under what circumstances the presence of these factors facilitates the development of full-blown EDs (Brumberg, 2000).

Adolescence and young adulthood presents a particular window of vulnerability for the development of body dissatisfaction and EDs (Fairburn & Harrison, 2003; Steiner-Adair, 1986; Striegel-Moore & Cachelin, 1999). Adolescence is a time of profound change for girls, particularly with regard to their physical appearance. During puberty, almost all girls are faced with weight gain, redistribution of body fat, and the development of typically feminine physical features. Adding to the difficulty in adjusting to this physical transition to womanhood are the traditional gender roles and cultural expectations that accompany this change (Gilligan, 1982; Mensinger, 2001; Striegel-Moore & Cachelin, 1999). For many girls, puberty and adolescence mark the beginning of an intense preoccupation with physical appearance and level of attractiveness. For girls that develop EDs, symptoms usually begin at puberty and are full blown by late adolescence (Fairburn & Harrison, 2003; Steiner-Adair, 1986; Striegel-Moore & Cachelin, 1999).

A question that arises, is why this natural concern over bodily changes morphs into profound body dissatisfaction and possibly EDs for some girls, while for others, teenage preoccupations remain within healthy limits. Because EDs in their modern form are a relatively new addition to the repertoire of psychiatric illnesses, researchers wonder what exactly it is about the current cultural milieu that lends itself to the frequent expression of these conditions.

Numerous social, psychological, and environmental influences have been proposed in the etiology of EDs, including current standards of the ideal body, family dynamics, ambivalent feelings surrounding sexuality, guilt, the need for control, and other comorbid psychiatric disorders such as depression and obsessive-compulsive disorder (Keel & Klump, 2003; Walsh & Devlin, 1998). Recent evidence has supported a genetic link to EDs, implicating heritability as a factor in their development as is the case with many psychiatric disorders (Gorwood, Kipman, & Foulon, 2003; Kaye & Strober, 2000). What is certain is that like almost all psychiatric illnesses, EDs represent the complex interplay between a genetic propensity toward a disease and environmental factors that act to trigger and maintain its expression.

Bronfenbrenner's Model of Ecological Development

This study will focus on adolescent and young adult Jewish women and will explore a number of relevant psychosocial variables that may influence body image and eating disturbance in this population. We will employ the principles outlined in Bronfenbrenner's model of ecological development, which highlights the individual's inextricability from his or her environment (Bronfenbrenner, 1977). Bronfenbrenner views development as a dynamic and reciprocal process between an individual and his or her surroundings. The model also proposes that development is punctuated by ecological transitions, defined as shifts in roles or settings that can be very significant developmentally (Bronfenbrenner, 2005). Certainly adolescence and young adulthood, times characterized by intense change both physically and socially, could be labeled as such a transition. Given Bronfenbrenner's view that transitional periods include vast psychological and behavioral change, one might expect adolescence and young adulthood

to present a window of vulnerability for body dissatisfaction and EDs as well as other psychological disturbances.

The ecological environment is conceived of as a series of hierarchical structures nested within each other that range from an individual's immediate surroundings to the larger social networks governing our lives (Bronfenbrenner, 1977). Within this framework, this paper will review the influence of four psychosocial variables on the development of body image and eating disturbance in adolescent and young adult women: religious orientation, two facets of social comparison (that include comparison among peers as well as comparison to media images), and educational environment (all-girls versus coed schools). Each of these variables will be discussed in the context of an appropriate Bronfenbrennerian structural system. The goal of this study is to explore the independent and combined effects of these variables on body image and eating disturbance in Jewish women.

The Macrosystem – Religious Orientation

A primary focus of this study is the influence of religious orientation and spiritual well-being on eating disorder symptomatology. Religion and religious orientation fall under the domain of the macrosystem, Bronfenbrenner's broadest and most inclusive structural category, which sets the standards for prototypes that exist within a culture or subculture (Bronfenbrenner, 1977). The macrosystem refers to a society's recipe for functioning and exerts the largest sphere of influence on cultural groups often without the conscious knowledge of its presence by individual members of a particular group. In other words, the macrosystem, which can exist on social, cultural, and political levels, is so pervasive that individuals are not even aware of its vast influence in shaping lives

(Bronfenbrenner, 1977). Religion will be examined on this level for two primary reasons. First, the role of religion has been neglected in the literature examining psychosocial variables involved in ED development even though it is a vital player in the history of EDs as well as in current etiological considerations (Brumberg, 2000; Lelwica, 1999; Vandereycken & Van Deth, 1994). Secondly, religion is of paramount importance in the study population. Among Jews, and Orthodox Jews in particular, religion functions as a true macrosystem, governing virtually every aspect of life with some characteristics that may be particularly conducive to ED development.

The Role of Religion in Health

While the purpose of this paper is not to provide an extensive review of the research on religion and health *per se*, a brief overview is required before discussing the importance of religion in ED research. Historically, health and illness were attributed to a higher power or system of belief. Mental illness in particular was seen as the domain of the soul and the result of possession by evil spirits (Kaplan, 1975, as cited in Taylor, 2005). During the Renaissance this view of health came to be seen as unscientific and it therefore was considered scientifically impossible to investigate matters of religion, faith, or spirituality. During the early 1990s, however, the study of religion and its effect on health once again came to be seen as a legitimate area for scientific and particularly psychological inquiry (Miller & Thoreson, 2003; Powell, Shahabi, & Thoreson, 2003).

The importance of including religion and spirituality as psychosocial factors that affect health outcomes is highlighted by a Gallup poll (Gallup & Lindsey, 1999) revealing that 95% of Americans believe in a higher power and 66% report religion to be a "very important" factor in their lives (as cited in Miller & Thoreson, 2003). Research

on religion and health is an emerging field and many findings have been inconclusive. Research also has tended to focus almost solely on the positive influences that religion may exert on health, virtually ignoring the possibility that religious beliefs may negatively affect mental and physical health. In a comprehensive review article by Powell, Shahabi, and Thoreson (2003) on the health benefits of religious beliefs, the only substantiated finding was that attendance at church and religious services was related to a decrease in all-cause mortality. This finding remained even after controlling for the possible behavioral factors associated with church going (i.e. individuals who attend church may have better health habits). There was also a marginally significant effect of religious practice on blood pressure but this was greater for women than men. Results have not been consistent in studies exploring whether religion positively affects cardiovascular disease or cancer (Powell et al., 2003).

A major flaw in the literature on religion and health, which has implications for ED research, is the confounding of the terms religion and spirituality. In the majority of research studies, the independent variable is referred to as "religion/spirituality" as if they were one entity. Researchers often aggregate religion and spirituality because of the difficulty in operationalizing and measuring each construct individually (Miller & Thoreson, 2003). Accurate clarification and measurement of these distinct concepts, however, is essential both theoretically and methodologically.

Practically speaking, one could argue that spirituality is experienced on a personal level and involves "transcendence" (e.g., of the physical or material world), while religion occurs more on a social or public level and is associated with practice, religious ritual or organized religion (Miller & Thoreson, 2003). Additionally, many people view

themselves as "spiritual but not religious," "religious but not spiritual," or as "both spiritual and religious." There also appears to be an effect of gender in how these terms are interpreted. Men are more likely than women to report being "religious but not spiritual," while women are more likely to view themselves as "spiritual but not religious" (Miller & Thoreson, 2003). Both men and women who report being "only religious and not spiritual" tend to be more rigid and judgmental in their beliefs and more likely to view God as judgmental and punitive. In contrast, individuals who report being "spiritual" view God as more merciful (Miller & Thoresen, 2003; Rayburn, 2004).

Another limitation of current work on religion and health is that studies view religion and religious beliefs as one-dimensional, often assigning a single variable (such as frequency of church attendance), as a measure for religiosity. In reality there may be different types of religious attitudes or beliefs, which may partially explain the inconsistencies in the existing literature. Some of the first theorists to highlight different types of devotion or religious experiences were Allport and Ross (1967). In their paper examining religious orientation and personal prejudice, the authors first made the distinction between extrinsic and intrinsic religiosity and designed the Religious Orientation Scale, the first psychometrically valid scale to measure these concepts. According to Allport and Ross, extrinsic individuals "use religion…to provide security, solace, sociability, distraction, status, and self-justification." "Intrinsic" individuals on the other hand, "live their religion," and "having embraced a creed, the individual endeavors to internalize it and follow it fully" (Allport & Ross, 1967, p.434). In other words, extrinsically motivated people use religion for its social rewards and intrinsically motivated individuals use religious beliefs to govern every aspect of their lives. While

these terms represent opposite poles, individuals usually fall somewhere on an intrinsic/extrinsic continuum and may even score either high or low on both constructs. In their original study, Allport and Ross found that individuals who scored high on the extrinsic scale appeared to be more critical and punitive toward homosexuality and the mentally ill, and also tended to be less humanitarian than non-religious people. Intrinsically motivated individuals tended to be less judgmental and more humanitarian than non-religious individuals (Allport & Ross, 1967). Since its conception, the extrinsic/intrinsic distinction has reliably been extended to an array of other psychological and physical variables including eating disturbances (Donahue, 1985), which will be discussed shortly.

While Allport and Ross (1967) make no explicit mention of spirituality, it is reasonable to assume that intrinsically religious individuals also would score higher on measures of spirituality, and that spirituality may moderate or influence the findings mentioned above. Additionally, because Allport and Ross set out to measure religiosity (and not spirituality), it is conceivable that an individual could score low on both intrinsic and extrinsic religiosity but score high on measures of spirituality, highlighting the importance of treating religion and spirituality as related, yet distinct constructs. A primary goal of this study is to independently measure the influence of religious orientation and spirituality, as it relates to eating behavior and body image disturbance.

The Role of Religion in Eating Disorders

The role of religion in disordered eating has only recently been explored empirically. This is surprising since individuals' and particularly women's relationship with food, has a long history of being associated with religious beliefs (Bemporad, 1995;

Brumberg, 2000; Vandereycken & Van Deth, 1994). Many ancient Eastern religions, such as Jainism and Hinduism have a history of asceticism and value prolonged fasting (Bemporad, 1996). Throughout medieval Europe, food refusal was common among women and almost ubiquitous among female saints. Fasting saints and ascetics sought to cleanse and purify themselves through self-control and denial of physical needs (Vandereycken &Van Deth, 1994). The ability to survive without any or with very little food was considered miraculous and a testament to the sanctity of these women and their actions. Among some of the more famous fasting saints were Catherine of Siena who ate only a handful of herbs each day, Saint Veronica who ate nothing except orange seeds on Fridays, and Columba of Rieti who actually died of starvation (Brumberg, 2000).

After the medieval period, the phenomenon of surviving on little food for religious purposes remained common but was seen mainly in adolescent girls and younger women. Especially in Western Europe, there were several documented cases of fasting girls, and many people traveled great distances to merely be in the presence of these miraculous maidens. This severe restriction of food was a reflection of the ascetic and austere lifestyle characteristic of many women as a way of espousing their religious faith and devotion (Brumberg, 2000). Their ultimate goal was to transcend physical needs thereby ensuring salvation and acceptance by God (Lelwica, 1999). A possible reason that these fasting girls were so widely accepted by the Catholic public was because they became a prototype for religious devotion; these women represented a complete denial of the flesh and separateness of body and soul. By the 16th century this phenomenon became known as “anorexia mirabalis” – a miraculous loss of appetite. Not until the mid-1800s, however, was this condition widely recognized as a psychiatric illness (Brumberg, 2000).

A question arises as to why women historically have felt the need to deny themselves food and other physical pleasures in order to ensure spiritual or religious acceptance. Lelwica (1999) proposed that this ethic of self-denial and asceticism has been transmitted through Judeo-Christian doctrine as a result of Eve's transgression of eating from the *Tree of Knowledge*. Many believe that it was through this act of eating that sin was first introduced into the world. The implication is that had it not been for woman's inability to control her physical urges, the world would have remained perfect and unadulterated; instead, mankind was doomed to repent eternally for her sin. Moreover, Eve's urging of Adam to eat from the tree as well caused them both to first become aware of their sexuality, as it states:

> And Eve took of the fruit thereof and did eat, and she gave also unto her husband…And the eyes of them both were open and they knew that they were naked…(Genesis, 3:15).

We see that it was only after Adam and Eve ate from the tree that they became aware and embarrassed that they were naked. This is in essence humankind's first revelation about sexuality and it is automatically associated with shame and guilt. According to the Bible, Adam and Eve were humiliated by sexual desire and actually attempted to hide from God. This can be seen as a possible historical explanation for why women have tended to use their bodies symbolically and used the restriction of food as their vehicle for devotion to God (Lelwica, 1999). This notion also can be bolstered by the observation that even among *male* saints, fasting was far less common than it was among women (Brumberg, 2000; Vandereycken & Van Deth, 1994).

It is in this brief biblical passage that the intimate connection between food and sexuality is enumerated. We are taught that from the beginning of time the act of eating

and sexual shame are linked. It is crucial to note that fasting saints and modern anorexics alike do not just restrict food intake. Their asceticism may extend to all domains of the physical, particularly areas involving sexuality and femininity (Bruch, 1978; Brumberg, 2000; Vandereycken & Van Deth, 1994). Anorexics are frequently celibate and often completely reject their sexuality through the loss of menstruation and other physical indications of womanhood such as breasts and hips. Ambivalent feelings about sexuality are often a central issue in anorexia as is highlighted by the fact that most cases develop at the onset of puberty (Steiner-Adair, 1986; Striegel-Moore & Cachelin, 1999; Walsh & Devlin, 1998).

Modern women with EDs may seek a similar kind of salvation either directly or indirectly related to religion (Lelwica, 1999). While few women with eating disturbances admit to, or are consciously aware that their eating disorder is linked to religious beliefs, trends emerge from the scant research that has been conducted in this area. Studies have revealed a direct relationship between anorexic symptoms and religious devotion and an inverse relationship between bulimic symptoms and religious devotion (Joughin, Crisp, Halek, & Humphrey, 1992; Smith, Hardman, Richards, & Fischer, 2003; Smith, Richards, & Maglio, 2004). In a study by Smith et al. (2003) patients with anorexia reported feeling closer to God whereas patients with bulimia reported feeling estranged from God and religious practice. The authors concluded that this observation may be a result of those with anorexia feeling successful in controlling their impulses and transcending their physical needs, which is seen as a virtue in most religious traditions. Those with bulimia on the other hand, may feel that they have succumbed to temptation through eating binges and therefore have failed in their quest for impulse control.

Distinctions in religious devotion are important when it comes to eating pathology as well. Allport and Ross' extrinsic/intrinsic distinction provides a meaningful framework within which to examine types of religious experience and the development of eating disorders. Smith et al. (2004) found that women characterized as intrinsically religious, (i.e. those that live their religion) tended to have less ED pathology than those characterized as extrinsically religious (i.e. people that use religion for its social value). Additionally, individuals characterized as *Pro-Religious* (those that endorsed both intrinsic and extrinsic items on the Religious Orientation Scale), had the highest scores on ED and body image questionnaires. This relation was observed in both a clinical patient sample as well as a non-clinical undergraduate sample. Additionally, Forthum et al. (2003) found that intrinsic religiosity decreased the likelihood of developing an ED among women considered to have family risk factors for eating disturbances such as a family member with an ED. Not only was an intrinsic orientation protective in this situation, but extrinsic religiosity appeared to exacerbate these risk factors (Forthun, Pidcock, & Fischer, 2003).

The limited empirical research on the relation between religion and EDs leaves a gap in our understanding of the role that religious influences may play in the development of pathological eating. The studies that have been conducted illuminate crucial observations upon which to proceed with future work, though many require clarification. For example, the studies cited above have included samples of almost exclusively Catholic women, and in the case of Smith et al. (2004), the majority of the women were Mormon. Studying the effect of religious orientation on eating and body

image disturbance among in other religious groups, (for example among Jewish women) is important in order to determine whether this paradigm extends to groups.

Jewish people have a complex and intimate relationship with food as a result of its relationship to and regulation by religious laws. In addition to special foods associated with the Sabbath and other holidays, Orthodox Jews adhere to complex dietary laws, which govern virtually every aspect of food preparation and consumption. While Judaism does not officially endorse asceticism or the denial of physical pleasures, abstaining from food and sex is often mandated as in the case of certain fast days, and can lead, especially among adolescents, to ambivalent feelings about physical needs. There exists limited empirical evidence as well as anecdotal evidence to suggest that the incidence of EDs among Jewish women, and specifically Orthodox Jewish women, is significantly higher than in the general population (Dancyger et al., 2002; Gluck & Geliebter, 2002; Kim, 2007). This finding, however, has not consistently been borne out. Gluck and Geliebter (2002), for example, found that secular Jewish women had higher rates of anorexic symptoms than their Orthodox Jewish counterparts, presumably because of reduced media exposure and less emphasis on physical appearance among Orthodox women. Additionally, a recent study found that among Modern Orthodox high school girls in Israel, greater levels of religiosity were associated with lower levels of eating pathology (Latzer,Tzischinsky, & Gefen, in press). It is notable that these studies used religiosity or level of observance as the primary independent measure. Using religious orientation, which does not need correspond to level of observance but rather measures one's religious attitude or outlook, may be a more useful method for studying the impact of religion in this population. Thus, the literature base on the relation between religion and

EDs would benefit from further explanation of the unique influences that Jewish faith and/or observance, may play in the etiology of eating pathology.

Another limitation of the existing published research is that the researchers do not address the possible mechanism(s) via which intrinsic religiosity buffers women at risk. Allport and Ross (1967) described intrinsically motivated individuals as having a more mature type of religious devotion, but this does not explain its benefits or the apparently deleterious effects of having an extrinsic orientation. Additionally, while most studies have explored the possible role that spirituality might play in eating behavior, researchers tend to use the term "spirituality" interchangeably with religion; as well, researchers tend to ignore the possible moderating effects that spirituality, as a distinct entity from religion, may confer. The current study aims to clarify issues not addressed by previous work by examining religious orientation and spirituality as separate constructs and by focusing on specific characteristics of the Jewish and Orthodox Jewish communities that may impact the influence of religious experience, and consequently attitudes and behaviors related to eating.

The Exosystem – Media

The media is characterized by Bronfenbrenner as an exosystem. As such, it is a structure within which the individual is not directly involved but that nevertheless exerts a strong influence on the individual's immediate experiences (Bronfenbrenner, 1979). Among Jewish adolescents and young adult women, there exists a broad spectrum of media exposure as many Orthodox Jews severely limit their exposure to mainstream media while some Orthodox Jews do not. It is possible that among Orthodox Jews the media exerts less influence in setting body image ideals than among the secular

population and that pressure to be thin within this community is internally generated. Therefore, when studying body image disturbance in this group, is it important to examine the differing levels of media exposure and the extent to which participants adhere to its ideals.

Social comparisons are judgments that individuals make about themselves as a result of comparing themselves to others on particular variables deemed important (Jones, 2001). Social comparisons are considered an influential source for the development of one's body image. Norms of ideal body weight, height, and shape are largely determined by the surrounding images available. Whether or not an individual is accepting of his or her appearance is strongly influenced by the extent to which one views his or her body as conforming to societal standards and expectations. Interestingly, while social comparison should in theory lead to both positive and negative feelings about one's situation, it has consistently been shown to result in negative self-evaluation whether the targets of comparison are celebrities, peers, or friends (Jones, 2001; 2004). Some have proposed that the ubiquity of the Western media, and the subsequent social comparisons that ensue, may be responsible for the dramatic increase in body dissatisfaction among women and girls in recent years (Becker, 2004; Halliwell & Dittmar, 2004; Thompson et al., 1999; Thompson & Stice, 2001). The ultra-thin, airbrushed models and celebrities gracing magazine covers, in movies, and in advertisements have come to represent our societal standards of beauty and sexuality – standards that are unattainable for the vast majority of women (Thompson, Heinberg, Altabe & Tantleff-Dunn, 1999). Over the last several decades, even as the average woman has actually gotten larger (Thompson et al., 1999), the ideal body weight, as portrayed by the media, has decreased so dramatically that

today's typical model is more than 20% underweight (Dittmar & Howard, 2004; Halliwell & Dittmar, 2004). This weight status is thin enough to warrant a clinical diagnosis of anorexia. While societal standards promote unhealthy thinness, they also promote elements of appearance that are altogether contradictory to thinness, such as large breasts, leading to an ideal of attractiveness that is biologically impossible for most women to achieve without the aid of plastic surgery. If these are the only images with which women have to compare themselves, it follows that social comparison with such unrealistic figures will leave women feeling inadequate and unattractive, which in extreme cases can lead to depression and EDs (Halliwell & Dittmar, 2004; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004).

While it is true that Western society adopts contemporary media images of beauty as the ideal, the media is often merely a reflection of society's changing preferences and should be examined in the context of cultural and historical changes (Thompson et al., 1999). Until the 19th century, the ideal woman, in the United States was full bodied and large breasted (Attie & Brooks-Gunn, 1989). With the 1800s came the popularity of the corset and the introduction of the quintessential hourglass figure, which, according to evolutionary theory, is a shape that signals health and fertility (Buss, 1989). This trend remained in vogue until the 1960s when women's roles began to shift due to the Feminist Revolution and its accompanying philosophies (Thompson et al., 1999). Feminist theorists maintain that during the 1980s, when women began infiltrating what was then the patriarchy of corporate America, standards of beauty and women's fashions took a decidedly unfeminine turn. According to Raphael and Lacey (1992), as women began to compete with men in the workforce, shoulders broadened, hips narrowed and the ideal

women was no longer shaped like an hourglass, but rather straighter and more masculine. For the majority of women, the elimination of feminine curves usually required not only a change in wardrobe but a drastic reduction in weight as well.

Experimental studies consistently have shown that when both college undergraduates and professional women are exposed to images of ultra-thin models, on average, they experience lower self-esteem, greater anxiety, and greater body dissatisfaction than women exposed to a control group of average size models (Dittmar & Howard, 2004; Halliwell & Dittmar, 2004; Tiggemann & McGill, 2004). While this is a robust effect immediately after viewing media images, for only a small percentage of women do these images translate into a preoccupation with weight; an even smaller percentage of women go on to develop full blown EDs. Consistent observations make apparent the need for a more complete model of the way in which media images lead to body image disturbance. Thus, researchers have started to focus on what is now labeled *thin-ideal internalization*, as a potential moderating variable in the link between media exposure and body dissatisfaction (Thompson & Stice, 2001; Tiggemann & McGill, 2004). Thompson and Stice (2001) differentiate between simple awareness about media ideals, which they argue is something that virtually every woman possesses, and an actual internalization of these ideals or a belief that conforming to these images is the only way to be seen as worthy or attractive. They contend that anyone with exposure to the media will be aware of what is considered attractive or sexy, but not all women will use these images to form a rigid schema of what is considered beautiful and what to emulate. Internalization is therefore thought to be an important contributor to whether or not

negative effects of media images are pervasive or long lasting (Thompson & Stice, 2001; Tiggemann & McGill, 2004).

Research has demonstrated that a decrease in self-esteem after viewing pictures of models is related directly to size and weight and not to attractiveness or facial features. For example, Dittmar and Howard (2004) created advertisements with ultra-thin and average sized models, while holding attractiveness constant. They used a computer program to stretch images of models to an average size, thus leaving all other features of attractiveness (i.e., facial features, hair, and height) intact. Not only did the majority of women have less anxiety after viewing average sized models, but many also demonstrated what the authors labeled a *relief effect*, showing increases in self-esteem after viewing these images. This demonstrates empirically that it is the unnaturally thin size of models, and not level of attractiveness that leads to decreases in body satisfaction among women. Though altered in size, these models were still rated by as above average in attractiveness. An increase in self-esteem after viewing average size figures is presumably a result of women engaging in comparison with an image they felt was more attainable or presented less of discrepancy with their own size (Dittmar & Howard, 2004).

Dittmar and Howard (2004) theorized that the observed effect was moderated by two factors: level of thin ideal internalization and tendency toward social comparison. Women scoring the highest on thin ideal internalization and social comparison showed the most dramatic increases in weight related anxiety after viewing ultra-thin images. While women high on internalization did demonstrate a *relief effect* after viewing the average size figures, this effect was attenuated slightly if social comparison was highly

independent of internalization. Thus, seeing average as opposed to ultra-thin images appears to be most beneficial, in terms of self-esteem and body satisfaction, for women high on thin-ideal internalization and moderate on a tendency for social comparison (Dittmar & Howard, 2004). From a methodological standpoint, this study suggests that while media does exert a tremendous influence on women's self-perceptions, several moderating factors exist that determine whether these images are internalized and whether or not conforming to these standards translates into body dissatisfaction.

The Microsystems – Peer Comparison and Educational Setting

According to Bronfenbrenner (1979), the most proximal experiences influencing the developing individual are those that result from the existence of microsystems. A microsystem can be defined as any setting within which an individual is physically present and can engage in face-to-face interactions on a frequent basis. This includes, but is not limited to, school, home, and work environments and involves interactions among friends, family members, and coworkers (Bronfenbrenner, 1979). This literature review will now explore two areas that exist on the level of the microsystem. First, we will consider the ways in which social comparison among peers molds adolescents' perceptions of acceptable appearance and standards of beauty. School and friends are a central focus of the social experience of adolescents and, aside from immediate family, comprise those microsystems with the most direct influence on developmental processes (Jones, 2001). Next, we consider the influence of educational environment, namely all-girls versus coed schools, and its effects on body image.

Peer Comparison

The effects of the media on body image and EDs were reviewed in the previous section. Less examined, are the effects of social comparisons with peers (as opposed to celebrities or media images) on body image. It is likely that peer comparison will prove especially important among adolescents and young adults, particularly among Orthodox Jews, whose media exposure may be limited. Peer influence or *peer pressure*, is viewed as a powerful force that can affect virtually every realm of a teenager's life including whether adolescents engage in positive or negative behaviors (Jones, 2004). Social acceptance by friends and peers is a key factor in the development and experience of teenagers. According to Bukowski, Hoza, & Boivin, (1993), adolescents consistently report peer acceptance as one of their primary concerns. In fact, according to Jones (2001), it is primarily comparisons with same sex peers that assist adolescent girls in determining their relative standing in terms of social attributes such as personality and popularity. Overall, social comparison studies support the instinctive notion that people prefer to compare themselves to individuals with meaningful similarities. Additionally, comparing oneself to peers on social characteristics is extremely relevant particularly in a school setting where students regularly interact with each other and have many opportunities to gather information about others' personal attributes (Jones, 2001).

Adolescence is a period during which intimate friendships are formed with peers. As a result, adolescents often engage in appearance related conversations, which may facilitate the internalization of media ideals of beauty and solidify prototypes of attractiveness and sexuality, a phenomenon that Jones refers to as *appearance training* (Jones, 2004; Jones, Vigfusdottir, & Lee, 2004). In other words, it is not merely the

bombardment by media images that structures appearance ideals among teenage girls but the interpretation and discussion of such images among friends that make them such an important part of the formation of one's own body image (Jones, 2004). It appears that seemingly benign conversations focused on clothes, makeup, and weight actually form an appearance culture among friendship groups and such conversations may play a key role in the development of body image concerns.

Among adolescent girls, Jones (2001) found a positive correlation between exposure to appearance related magazines (i.e., health/fitness and beauty) and appearance-related conversations with friends. This finding suggests that girls who have greater exposure to media images of beauty may engage in more appearance-focused friendships, may be exposed to more appearance related discussion, and may engage in more social comparison. Faith, Leone, & Allison (1997), demonstrated that the more often adolescent and college age women engaged in appearance related conversations, the higher were their levels of body dissatisfaction. A longitudinal study by Jones (2001) discovered a mediational relationship between appearance-related conversations and body dissatisfaction. The more adolescents engaged in appearance-related conversations, the more they came to rely on social comparison for feedback on personal characteristics, and the greater was their reported body dissatisfaction. Jones (2001; 2004) also found evidence that preoccupation with social comparison is what fosters negative body image rather than body dissatisfaction causing one to engage in more appearance-related conversation and comparisons.

These findings have important implications. For example, they suggest that while the media's role in body dissatisfaction cannot be ignored, there may be additional

proximal forces at work bolstering unrealistic and unattainable images, providing a breeding ground for low self-esteem and a rejection of one's body. On an institutional level, if administrations and/or community groups wish to promote an awareness and acceptance of a healthy appearance and body ideals, more focus might be given to the interactions between adolescents and the processes of social comparison in which they engage. The extant research on peer comparison processes in the development of body image has investigated a limited demographic. While Jones' studies provided a solid framework in which to conduct this type of research, her samples consisted primarily of white, middle-upper class students from local public schools. These studies should be extended to more heterogeneous sociocultural groups as well as to students in single-gender schools because peer processes may manifest differently in coed versus single-gender settings, especially around issues of appearance and body concern.

Educational Setting

For the majority of teenagers and young adults, the greatest influence on their social, psychological, and academic lives is high school or college. Few studies, however, have examined the ways in which school environments influence body image and eating behavior. Specifically, little work has focused on the relationship between schools' gender composition and body dissatisfaction (Dyer & Tiggemann, 1996; Mensinger, 2001, 2003). This is an important variable in our population because many Orthodox Jewish families send their children to single-gender schools. To date, studies comparing single-gender versus coed educational systems have centered on the possible academic benefits of each type of setting (Lee & Marks, 1992). The purpose of this paper is not to explore the benefits and disadvantages of different types of educational settings per se,

but rather to focus specifically on the way this variable may influence the body image of adolescent girls attending these schools.

Lee and Marks (1992) identified two conflicting explanations for why families choose to send their daughters to all-girls schools. First, single-gender education for girls is seen as liberating in that it frees girls from the pressure of being attractive to boys, thereby encouraging them to flourish academically. This freedom is viewed as emancipating young girls from traditional gender roles, allowing them to focus on academic and career goals rather than on fulfilling the roles of wife and mother. Conversely, some parents opt for single-gender schools for precisely the opposite reason – they feel that an all-girls institution will impart traditional values to their daughters, emphasizing the importance of raising a family and fulfilling stereotypically feminine roles.

One also could speculate that attending a single-gender school should buffer young women from societal pressures to conform to unrealistic standards of beauty (Dyer & Tiggemann, 1996). Women and young girls are constantly bombarded by media images dictating how to look and behave in order to appear more attractive to others. The popularity of today's *waifish supermodel* implies that thinness is synonymous with beauty and is a way to be seen as sexually appealing (Thompson et al., 1999). Without having to vie for the attention of boys, girls in single-gender schools might be protected from the deleterious effects of trying to conform to unhealthy media images of ultra-thin yet hypersexual teenagers (Dyer & Tiggemann, 1996; Fairburn & Harrison, 2003; Thompson et al., 1999). This might afford students in single-gender institutions the

freedom to focus solely on academics, while girls in coed schools may be more likely to become preoccupied with their appearance.

Dyer and Tiggemann (1996) found the opposite pattern – girls in all-girls schools appeared more vulnerable to body dissatisfaction and EDs than their coeducational counterparts. A possible explanation for this counter-intuitive finding is that boys actually serve as a *reality check* for girls, highlighting the discrepancy between what men find attractive and what the media dictates as sexy or appealing (Dyer & Tiggemann, 1996; Mensinger, 2001, 2003). Studies in evolutionary psychology have indicated that the most appealing physical attribute of a woman is a low waist-to-hip ratio. A low waist-to-hip ratio is associated with the traditional hourglass figure, considered quintessentially feminine as opposed to an ultra-thin straight frame that is popularized by the media and celebrities (Buss, 1989; Thompson et al., 1999). While girls in coed schools may feel pressured to attract boys, it would appear that they might be able to do so in a healthier and more realistic way. Additionally, while girls in single-gender schools may have relationships with boys outside of school, they do not have the opportunity to interact with them in the same capacity as girls in coed schools. Interactions with boys outside of school do not provide the same *buffering effect* as relationships within the school setting. Furthermore, it is possible that there are other characteristics to life in a single-sex educational setting that may put younger women at greater risk for developing body image problems (Dyer & Tiggemann, 1996; Mensinger, 2001, 2003; Striegel-Moore & Cachelin, 1999).

As mentioned above, the two primary reasons for sending girls to single-gender schools appear at odds with each other. Some have proposed that when single-gender

schools stress the importance of academic excellence along with the traditional roles of wife and mother, young women are faced with conflicting gender roles (Dyer & Tiggemann, 1996; Mensinger, 2001, 2003). Borrowing from feminist theory, a single-gender school may exacerbate the already conflicting messages that women have been receiving from society in the last several decades. This conflicting message is that women must be able to compete with men intellectually, academically and career wise, while still remaining feminine, sexy and attractive. This is a concept that has come to be known as the *Superwoman Ideal* (Gilligan, 1982; Mensinger, 2003; Steiner-Adair, 1986; Striegel-Moore & Cachelin, 1999). Contrary to expectations, a coed school with a more traditional (and some may argue), male-dominated social structure may in fact allow girls more of a choice over the kinds of decisions to make.

In interviews with girls form both single-gender and coed high schools, Mensinger (2003) found that girls from coed schools reported less pressure to conform to the Superwoman Ideal and also expressed an appreciation for not always being expected to perform academically. In fact these girls reported appreciating the fact that faculty had lower expectations of them in math and science oriented subjects; it reportedly took "some of the pressure off" (Mensinger, 2003). These are the types of experiences that many parents and activists have fought to eliminate for the last several decades, yet it appears that this type of coed environment may serve to protect young women psychologically if not academically. Because many of the women in our population of interest attend all-girls schools, it is of particular importance to examine the influence of educational setting. In light of anecdotal evidence suggesting higher rates of EDs among

Orthodox women, educational setting may play a vital role in understanding these discrepancies.

Purpose and Rationale of the Study

The literature review presented above addressed the influence of sociocultural variables on the development of body image and eating disturbance within the framework of Bronfenbrenner's Model of Ecological Development (1979). Religious orientation and religious influences fall within the domain of the macrosystem and may exert vast influences on individuals' lives. Despite the historical link between religion and food (especially among women), the influence of religion on the etiology of eating pathology largely has been ignored by researchers. The extant literature that has explored the possible connection between religion and EDs is limited in scope and leaves many unanswered questions worthy of investigation.

The influence of media on body image and EDs has been widely studied and is characterized by Bronfenbrenner (1979) as an exosystem – an external structure or system that may exert direct influence on individuals' immediate experiences. The media is seen by many as a powerful vehicle for conveying unrealistic beauty ideals and as a major contributor to body dissatisfaction among adolescent and young adult women. Less frequently explored, but also a potent generator of social evaluations, are comparisons among peers, which may prove more psychologically influential than those made to celebrities or media figures. According to Bronfenbrenner (1979), peer comparisons are classified as part of the microsystem – a structure within which an individual plays both an integral and reciprocal role. Peer comparisons may not only help adolescents gauge how well they "fit in," but may foster the internalization of media ideals.

Finally, we reviewed the influence of educational setting, which also falls under the domain of the microsytem. Previous work has looked primarily at the educational differences between all-girls and coed schools. Only a handful of studies have examined the possible role that gender composition of schools may play in the development of body image disturbance and EDs. There is evidence to suggest that girls in single-gender schools may suffer from more body dissatisfaction and eating problems than girls in coed schools but this observation requires further exploration and validation.

The current study was designed to address several shortcomings in the existing literature by exploring the independent and combined effects of the aforementioned variables among adolescent and young adult Jewish women. A primary goal was to expand research examining the relationship between religious orientation and EDs by extending this paradigm to Jewish women and including measures of spirituality as a distinct construct from religion. Results of studies that have examined the role of religion in ED development among Jewish women have been inconsistent and have not used a measure of religious orientation; rather, existing studies have investigated various levels of observance as the primary predictor of eating disturbance. Studies that have used a measure of religious orientation have been limited exclusively to Christian women. To the author's knowledge, research has not investigated the combined impact of both religious orientation and spiritual influences as separate (albeit related) constructs.

Another important goal was to examine the influence of media exposure, thin-ideal internalization, and peer comparison on body image dissatisfaction and ED development and determine how these sociocultural variables relate to religious orientation. In this sample, it was expected to find varying degrees of media exposure and

thin-ideal internalization (based on religious observance level and religious orientation), which may result in differing levels of body image and eating disturbance. These sociocultural variables may serve as mediating mechanisms of the influence of religious orientation and may foster understanding of how intrinsic orientation is protective against the development of EDs, an issue that previous studies have failed to address.

Finally, this study aimed to examine whether differences in body dissatisfaction and eating pathology exist between girls in single-gender and coed schools. Research that has explored this issue has not included religious institutions. It is likely that the women in our study, many of whom attended private religious schools, have had different educational experiences than women in non-sectarian single-gender institutions—and these experiences may have impacted body image development and eating behaviors.

Research Questions and Hypotheses

1. *a) Is there a significant influence of religious orientation on eating behavior and body image disturbance?*

Based on the findings of Smith et al. (2004), women with an intrinsic religious orientation are expected to have lower scores on measures of eating and body image disturbance than any other religious orientation group and those with an extrinsic religious orientation to have the highest scores of any group.

b) Is there a significant influence of spiritual well-being on eating behavior and body image disturbance?

Spirituality, as distinct from religion, has not previously been explored as a possible influence on ED development. Women with high levels of spiritual well-being are expected to have lower scores on measures of eating and body image disturbance than those with low levels of spiritual well-being.

2. *a) Is there a significant relation between thin ideal internalization, adherence to the Superwoman Ideal, social comparison processes, and eating behavior and body image disturbance?*

Based on the literature reviewed above, scores on measures of eating and body image disturbance are expected to be highly positively correlated to adherence to thin ideal internalization, adherence to the Superwoman Ideal, and social comparison processes.

b) Is there a significant influence of religious orientation on thin ideal internalization, adherence to the Superwoman Ideal, and social comparison processes?

Based on previous findings relating to the influence of religious orientation on ED symptoms, it is anticipated that this pattern will extend to other sociocultural variables as well. Women with an intrinsic religious orientation are expected to exhibit lower levels of thin ideal internalization, adherence to the Superwoman Ideal, and social comparison than any other religious orientation group, and those with an extrinsic orientation to have the highest scores.

3. *What are the mechanisms by which religious orientation influences eating behavior and body image disturbance?*

The influence of religious orientation is expected to be mediated by the sociocultural variables of thin ideal internalization, adherence to the Superwoman Ideal, and social comparison.

4. Is there an influence of educational setting (all-girls vs. coed schools) on eating behavior and body image disturbance?

Previous studies have shown that women in all-girls schools are more vulnerable to body dissatisfaction because of the conflicting gender roles associated with schools that emphasize both academic rigor as well as traditional roles associated with women (Lee & Marks, 1992). Contrary to this finding, among Jewish women, particularly Orthodox women, it is expected that the opposite is true. Within the Orthodox community, all-girls schools tend to be more conservative and stress traditional gender roles whereas coed

schools tend to be more progressive emphasizing traditional roles as well as academic success, thereby creating more gender role conflict.

Method

Participants

Participants were 301 Jewish women from New York City drawn from three educational establishments (two university settings and one high school) in the Boroughs of Brooklyn and Manhattan. These establishments were included based on their proximity to the Principal Investigator's institution (i.e., Brooklyn College) or because the administrators gave approval for the study. Most participants (n = 185, 61.5 % of the total sample) were drawn from Brooklyn College of the City University of New York (BC), a public four-year co-educational college that is part of a large university system. A smaller percentage were students (n = 43, 14.3 % of the total sample) at Touro College, a private single-gender college that is also part of a larger university system. The remaining participants (n = 73, 24.3% of the total sample) were students at Shulamith High School for Girls, a single-gender religious high school (i.e., "Yeshiva") in Brooklyn.

Procedure

The study was approved by the Institutional Review Board (IRB) at BC. All data were collected from August 2006 through March 2007 by the principal investigator (PI), a doctoral student at BC and the Graduate Center of the City University of New York. Several advanced undergraduate research assistants also participated in data collection and received course credit for their work. All participants were informed that the study entailed completing a series of paper-and-pencil questionnaires that would take

approximately 30 - 45 minutes on the topic of body image and eating disorders in Jewish women. Participation was completely voluntary and informed consent was obtained.

College-Specific Procedures

The BC participants were introductory psychology students who received class credit or students recruited from various public sites across campus including the cafeteria, library, and café. With the permission of certain professors in the Psychology and Judaic Studies departments, participants also were recruited from various undergraduate courses. Individuals not receiving course credit were not compensated for their participation. Participants had the option of completing the questionnaires on campus or off site (in which case they would return the questionnaire to the Psychology Department in an envelope provided by the investigators). The Touro College participants were psychology students who completed the questionnaires during class with the permission of professors familiar with the study. In some cases, the PI provided an overview of the study design and methods after the questionnaires were completed (as per the request of certain Touro College professors).

High School-Specific Procedures

Several visits were made to the high school during which the PI provided general background information to students about the study's purpose, as well as consent forms for parents of students under age 18. Students were assured that parental consent forms would be stored separately from questionnaires so that no identifying information would be visible. Potential participants also were informed that the study was independent of the school's administration and that decisions about whether or not to participate would have no bearing on academic outcomes. On return visits by the PI, parental consent forms were

collected and questionnaires were distributed to students during free class periods, lunch times, and recess.

Questionnaires

Demographic Information

Data were collected on several demographic variables. Participants reported their age, height, and weight (which was then used to calculate body mass index (BMI)), the gender composition of the high school they currently or previously attended (all-girls vs. coed), how many hours of television they watched per week, and their level of religious observance.

Eating Attitudes Test (EAT)

The EAT is a widely used measure of disordered eating and the characteristics of eating disorders (Garner & Garfinkel, 1979). The abbreviated EAT-26, which was used in this study, consists of 26 items, and includes the three subscales of Dieting, Bulimia/Food Preoccupation, and Oral Control. Response options include, "always," "usually," "often," "sometimes," "rarely," or "never." Responses are scored from 0 - 3, with answers of "sometimes," "rarely," and "never" assigned a 0, and "always," "usually," and "often," assigned scores of 3, 2 and 1, respectively. Scores range from 0 - 78 for the total EAT-26, from 0 - 39 for the Dieting subscale, from 0 - 18 for the Bulimia subscale, and from 0 - 21 for the oral control subscale, with higher scores indicating greater disordered eating. The EAT has demonstrated high reliability and consistency and is considered an effective screening tool in both clinical and non-clinical populations (Garner, Olmsted, Bohr, & Garfinkel, 1982; Garner & Garfinkel, 1979).In the initial study, Cronbach alpha reliability was .90, .90, .84, and .83 for the total EAT, and the

Dieting, Bulimia, and Oral Control subscales respectively. Cronbach alpha reliability in this sample was .92, .86, .90, and .78 for the total EAT, and the Dieting, Bulimia, and Oral Control subscales, respectively.

Body Shape Questionnaire (BSQ)

The BSQ is a 34-item scale that measures concerns about body shape and weight. An additional feature is questions specifically related to the experience of feeling fat, which is considered a risk factor for and primary characteristic of eating disorders (Cooper, Taylor, Cooper, & Fairburn, 1987). Responses are scored on a 6-point Likert type scale with responses ranging from "never = 1" to "always = 6." Total scores on the BSQ range from 34 – 204, with higher scores indicating greater body dissatisfaction. Although exact values are not reported, the BSQ has demonstrated high internal consistency in previous studies (Cooper, Taylor, Cooper, & Fairburn, 1987). Cronbach alpha reliability in this sample was .97.

Religion and Spirituality Measures

Religious Orientation Scale (ROS)

The ROS is a 20-item scale that is among the most widely used tests of religious orientation and measures the constructs of intrinsic and extrinsic religiosity (Allport & Ross, 1967). Individuals considered intrinsic in their orientation are those that "live their religion," while extrinsic individuals are those that "use their religion." The intrinsic subscale consists of 9 items and the extrinsic subscale consists of 11 items. In addition to the intrinsic/extrinsic distinction, two more constructs emerged from the scale after its development and initial use. Unexpectedly, some individuals tended to agree with both intrinsic and extrinsic items and were labeled as indiscriminately *pro-religious,* whereas

other individuals tended to disagree with both types of items and were labeled as *anti-religious.* Based on these findings, Allport and Ross conceptualized a fourfold typology of religious orientation, which will be used throughout this paper. Cut-off scores on the intrinsic and extrinsic subscales were used to categorize individuals as high or low on each subscale (see Donahue, 1985). Individuals scoring high on the intrinsic subscale and low on the extrinsic subscale were categorized as *intrinsic*, individuals scoring high on the intrinsic and extrinsic subscales were categorized as *pro-religious*, individuals scoring low on both subscales were categorized as *anti-religious*, and individuals scoring high on the extrinsic and low on the intrinsic subscale were categorized as *extrinsic*.

Scores on the ROS range from 20 - 100 for total score, with lower values indicating a more intrinsic orientation and higher values indicating a more extrinsic orientation. It is important to note that the ROS is a measure of religious *orientation* or attitude and is not necessarily a reflection of level of observance. The ROS has demonstrated good Cronbach alpha reliability, ranging from .69 to .93, and has been widely used (Donahue, 1985). In this sample, Cronbach alpha reliability was .74, .80, and .62, for the total scale, intrinsic subscale, and extrinsic subscale respectively.

Spiritual Well-Being Scale (SWB)

The SWB is a 20-item scale that assesses overall spiritual well-being and also is used as a general quality of life measure (Paloutzin & Ellison, 1991). The SWB contains a 10-item subscale for religious well-being (RWB) that assesses well-being in terms of a particular religious affiliation or an individual's relationship with God. The second 10-item subscale measures existential well-being (EWB) in terms of an individual's fulfillment or meaning in life, independent of religion. The SWB is scored on a 6 point

Likert-type scale with responses ranging from “strongly agree = 1” to “strongly disagree = 6.” Total SWB scores range from 20 - 120 and from 10 - 60 on both the RWB and EWB subscales. For the total SWB and each subscale, cut-off scores are provided for categorizing individuals as low, moderate, or high for each type of spiritual-well-being.

In previous studies, the SWB has demonstrated high internal consistency and reliability across samples and has been shown to be an effective measure in various populations and across religious affiliations (Ellison, 1983; Ellison & Smith, 1991; Paloutzin & Ellison, 1991). For example, in a study by Paloutzian and Ellison (1991), Cronbach alpha reliability ranged from .89 to .94 (total SWB), .82 to .94 (RWB), and .78 to .86 (EWB). In this sample, Cronbach alpha reliability was .92, .92, and .86 for the total SWB, RWB, and EWB, respectively.

Sociocultural Measures

Sociocultural Attitudes Towards Appearance Scale (SATAQ)

The SATAQ consists of 30 items that measure the influence of media exposure on body dissatisfaction by measuring the extent to which one is aware of and internalizes media ideals (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004).The overall scale consists of four subscales that include (1) information about media images, (2) pressures exerted by the media, (3) internalization of general media images, and (4) internalization of ideals related to athleticism. Responses are scored on a 5-point Likert type scale with responses ranging from “definitely disagree = 1” to “definitely agree = 5.” For conceptual purposes, only data from the total scale and Internalization-General subscale are presented in this study. Scores range from 30 - 150 on the total SATAQ and from 9 - 45 on the Internalization-General subscale. Previous studies have reported

Cronbach alpha reliability as .96 and .95 for the total SATAQ, and Internalization-General subscale, respectively (Thompson et al., 1999; Thompson et al., 2004). In this sample, Cronbach alpha reliability was .94, and .82, respectively.

Social Comparison to Models/Celebrities and Peers Scale

This instrument contains two 18-item scales and was designed to assess the extent to which individuals engage in comparison processes with (1) models/celebrities and (2) peers on items regarding physical appearance and social attributes. Participants were asked to rate how frequently they compare themselves on each attribute to the two target groups (i.e., models/celebrities and peers). For each scale, responses were scored on a 5-point Likert type scale with answers ranging from "never = 1" to "a lot = 5." Scores range from 18 - 90 on each scale. Previous studies have reported Cronbach alpha reliability to be .94 for the combined scale (Jones, 2001; 2004). In this sample, Cronbach alpha reliability was .92 and .90 for comparison to models and peers, respectively.

Superwoman Ideal

The 20-item Superwoman Ideal scale was used to measure the Superwoman construct, which represents perfectionist achievement in multiple roles. The scale used in this study was a modified version of the original Superwoman scale developed by Smolak and Levine (1994). Participants rate the importance of a variety of items relating to educational success, relationships, physical attractiveness, and social obligations. Response options are scored on a 6-point Likert scale ranging from "strongly disagree = 1" to "strongly agree = 6." Higher scores indicate greater endorsement of the superwoman ideal. Cronbach alpha reliability for the revised scale was .88 (Mensinger, 2003, Mensinger & Bonifazi, 2005). Cronbach alpha reliability in this sample was .93.

Beck Depression Inventory (BDI –II)

The BDI-II is one of the most widely used measures of depressive symptoms in both clinical and research settings (Beck, Steer, & Garbin, 1988). While the full BDI-II consists of 21 items, we eliminated one item that related to sexual activity and was deemed inappropriate for the high school students in our sample. Respondents are asked to choose one of four statements (for each of the 20 items) that best describes their feelings during the past two weeks. Statements are scored from 0 - 3, with higher scores indicating higher levels of depressive symptoms. For the purposes of our study, scores ranged from 0 - 60. The BDI-II consistently has demonstrated high reliability with Cronbach alpha reliability reported at .93 (Beck, 1996). Cronbach alpha reliability in this sample was .91.

State/Trait Anxiety Inventory for Children (STAI – C)

The STAI-C is a widely used measure of both state and trait anxiety. Although the instrument was designed to be used with children and adolescents, we felt this test was more appropriate for individuals in our sample than the adult version. As well, we decided to use only the trait anxiety scale (T-Anxiety), which measures relatively stable individual differences in anxiety proneness (i.e., differences between individuals in the tendency to experience anxiety states). The T-Anxiety scale consists of 20 items relating to emotions and behaviors associated with anxiety. Responses include “hardly-ever = 1,” “sometimes = 2,” and “often = 3.” Scores range from 20 - 60, with higher scores indicating higher levels of anxiety. While, alphas are not reported, The STAI-C has

demonstrated good reliability (Spielberger, Edwards, Lushene, Montuori, & Platzek, 1973). In this sample, Cronbach alpha reliability was .89.

Statistical Analyses

Analysis of variance (ANOVA) was used to compare group differences in the demographic characteristics of study participants. We next examined the relationship of eating disorder symptoms to religious orientation and spiritual well-being. Separate ANOVAs were used to evaluate differences for the independent variables of religious orientation and spiritual well-being. Dependent variables were the Eating Attitudes Test (EAT) used as a total score and as subscales and the Body Shape Questionnaire (BSQ). When appropriate, LSD post-hoc tests also were conducted. A second model used analysis of covariance (ANCOVA) and adjusted for the demographic variables of age, BMI, and self-reported religious observance (orthodox Jewish vs. non-orthodox Jewish). A third model used ANCOVA and adjusted for the demographic variables in model 2 as well as for depression (as measured by the BDI-II) and anxiety (as measured by the STAI-C). ANOVA models also were used to compare each religious orientation category by level of spiritual well-being. Welch ANOVAs were repeated for the significant analyses where sample sizes were highly unequal.

Another set of analyses investigated the relationship of sociocultural measures to religious orientation and spiritual well-being. Pearson correlations were conducted between the SATAQ, the Superwoman Ideal, Social Comparison to Peers and Celebrities, the EAT, and the BSQ. Also, separate ANOVAs were used to evaluate differences for the independent variables of religious orientation and spiritual well-being. Dependent variables were the SATAQ, used as a total score and as subscales, the Superwoman Ideal,

and Social Comparison to Peers and Celebrities. When appropriate, LSD post-hoc tests also were conducted. A second model used ANCOVA and adjusted for the demographic variables of age, BMI, and self-reported religious observance (orthodox Jewish vs. non-orthodox Jewish). A third ANCOVA model adjusted for the demographic variables in model 2 as well as for depression and anxiety.

After the necessary criteria were met, four mediation analyses were conducted in order to test whether the SATAQ or the Superwoman Ideal, function as mediating variables for the relationship between religious orientation and eating disorder symptomatology, as measured by the EAT and BSQ. Several multiple linear regression models, that included demographic and mood variables as covariates, were used for these analyses. Also, Sobel and Goodman Tests were used to test for significance of each mediation model.

The final set of analyses examined the impact of educational setting (all-girls vs. coed high schools) on eating disorder symptomatology and sociocultural influences. Separate ANOVAs were conducted using gender composition of high schools attended by participants in the total sample as the independent variable. Dependent eating behavior variables included the EAT and its subscales and the BSQ. Dependent sociocultural variables included the SATAQ and internalization subscale, the Superwoman Ideal, and social comparison processes. A second model used ANCOVA and adjusted for the demographic variables of age, BMI, and self-reported religious observance (orthodox Jewish vs. non-orthodox Jewish). A third model used ANCOVA and adjusted for the demographic variables in model 2 as well as for depression and anxiety. The above analyses were repeated for three subsets of participants; college women only, Brooklyn

College students only, and finally all schools were included and divided by what type of high school participants attended.

As appropriate, variables were evaluated for skewness and those that were skewed were logarithmically transformed. SPSS version 11.5 (SPSS, 2006) was used for all analyses except for calculation of Cohen's d which used the online Becker Effect Size Calculator (Becker, 2005).

Results

Participant Characteristics

There were no significant differences between participants at any of the data collection sites in terms of body mass index (BMI), $F(2,283) = .62$, $p = .54$, $\eta^2 = .004$, level of eating disturbance, $F(2,298) = 1.03$, $p = .36$, $\eta^2 = .007$, body image dissatisfaction, $F(2,298) = .78$, $p = .46$, $\eta^2 = .005$, or depression, $F(2,298) = 1.19$, $p = .31$, $\eta^2 = .008$. There was a significant difference for anxiety between the BC and Touro College participants which was controlled for in subsequent analyses, $F(2,298) = 3.13$, $p = .05$, $\eta^2 = .02$. The mean age of the total sample was 19.00 ($SD = 2.42$). The mean body mass index (BMI), measured using self reported height and weight, was 21.70 (SD = 2.94). The mean depression score for the overall sample was 11.32 (SD =8.86), and the mean anxiety score was 37.25 (SD = 8.13), both of which were below clinically significant levels. Of the total sample, 66.3% were either currently attending or had attended an all-girls high school and 33.7% attended a coed high school. The majority of the sample (76.1%) reported being Orthodox or Modern-Orthodox Jewish, and were categorized as observant, whereas the remainder of the sample endorsed conservative, reform, traditional, non-affiliated, or "other" when questioned about their religious observance and therefore were categorized as non-observant.

Religious Orientation and Eating Disorder Symptoms

As shown in Table 1, ANOVAs were conducted with religious orientation as the independent variable and each total scale or subscale on the EAT and BSQ as the dependent variables. All ANOVAs were significant for religious orientation at or below the p =.01 level. Consistent with our hypothesis, an overall pattern of mean values existed for the intrinsic (lowest mean scores), anti-religious (next to lowest mean scores), pro-religious (next to highest mean scores) and extrinsic (highest mean scores) groups.

LSD post-hoc comparisons for the total EAT score showed significant differences between the intrinsic and extrinsic groups (p <.001), the intrinsic and pro-religious groups (p =.01), and between the extrinsic and anti-religious groups (p = .03). For the dieting subscale of the EAT, there were significant differences between the intrinsic and extrinsic groups (p = .01) and between the intrinsic and pro-religious (p = .012). For the bulimia subscale of the EAT, there were significant differences between the intrinsic and extrinsic groups (p = .001), the intrinsic and pro-religious groups (p = .018), and the extrinsic and anti-religious groups (p = .046). For the oral control subscale of the EAT, there were significant differences between the intrinsic and extrinsic groups (p = .002), the extrinsic and pro-religious groups (p = .043), and between the extrinsic and anti-religious groups (p = .001). For the BSQ, there were significant differences between the intrinsic and extrinsic groups (p =.01), between the intrinsic and pro-religious groups (p < .001), and the comparison between the pro-religious and anti-religious groups approached significance (p = .07). The pattern of results remained the same for both ANCOVA models.

Table 1
Influence of Religious Orientation on Body Dissatisfaction and Eating Disturbance

	Intrinsic M (SD)	Anti-Religious M (SD)	Pro-Religious M (SD)	Extrinsic M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 130	n = 58	n = 66	n = 47	F	*p*	F	*p*	F	*p*	eta^2
EAT Total	8.65 (11.26)	12.06 (14.60)	13.31 (14.23)	16.15 (16.20)	5.84	.001	5.70	.001	4.58	.004	.06
EAT Dieting	5.40 (6.91)	8.02 (9.06)	8.35 (9.14)	9.49 (9.78)	3.78	.01	4.15	.007	3.03	.03	.04
EAT Bulimia	1.35 (3.06)	2.14 (4.33)	2.50 (3.84)	3.13 (4.32)	4.49	.004	5.10	.002	4.33	.005	.04
EAT Oral Control	1.89 (3.18)	1.90 (3.61)	2.45 (3.62)	3.53 (4.14)	4.45	.004	3.89	.009	3.74	.01	.04
BSQ Total	75.91 (28.10)	83.49 (35.9)	94.00 (34.21)	92.22 (34.96)	6.15	<.001	6.55	<.001	4.31	.005	.06

Note:
M = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire
All analyses for the Eating Attitudes Test (EAT) and its subscales used logarithmically transformed values to correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison. Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

Spirituality and Eating Disorder Symptoms

Participants were categorized as being low, moderate, or high on each type of spiritual well-being. However, because the "low" groups had sample sizes of 2, 6 and 0 for the SWB, RWB and EWB respectively, they were eliminated and all analyses were conducted for those individuals categorized as either moderate or high on each type of well-being.

Spiritual Well-Being (SWB)

As shown in Table 2, for SWB, ANOVAs showed significant differences only for the BSQ, F (1,297) = 4.572, p = .033, d = .27. Participants with moderate spiritual well-being had significantly higher scores on the BSQ than those with high spiritual well-being. This relationship remained significant when adjusting for demographic variables with ANCOVA in model 2, but was no longer significant when also adjusting for mood variables with ANCOVA in model 3.

Table 2
Influence of Spiritual Well-Being on Body Dissatisfaction and Eating Disturbance

Spiritual Well-Being	Moderate M (SD)	High M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 182	n =117	F	*p*	F	*p*	F	*p*	*d*
EAT Total	12.08 (14.08)	10.67 (13.14)	.25	.61	.26	.61	.93	.33	.06
EAT Dieting	7.46 (8.68)	6.8 (8.18)	.08	.78	.32	.57	.47	.49	.03
EAT Bulimia	2.18 (3.91)	1.8 (3.52)	.28	.60	.20	.65	.97	.33	.06
EAT Oral Control	2.43 (3.69)	2.03 (3.36)	1.37	.24	.28	.60	.01	.92	.14
BSQ Total	87.17 (34.40)	78.84 (30.36)	4.57	.03	6.63	.01	.03	.85	.26

Note:
M = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire
All analyses for the Eating Attitudes Test (EAT) and its subscales used logarithmically transformed values to correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison. Variables used as covariates for model 2 were: age, body mass index (BMI), and

level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 2 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

Religious Well-Being

As shown in Table 3, there were no significant findings for RWB and any of the dependent variables.

Table 3
Influence of Religious Well-Being on Body Dissatisfaction and Eating Disturbance

Religious Well-Being	Moderate M (SD)	High M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 154	n = 141	F	*p*	F	*p*	F	*p*	*d*
EAT Total	11.25 (12.67)	11.41 (14.45)	.21	.64	.38	.54	.01	.92	.05
EAT Dieting	6.99 (7.91)	7.14 (8.82)	.01	.91	.22	.64	.001	.98	.01
EAT Bulimia	1.90 (3.50)	2.04 (3.82)	.01	.92	.001	.97	.18	.68	.01
EAT Oral Control	2.35 (3.46)	2.23 (3.72)	.60	.43	.11	.74	.01	.94	.09
BSQ Total	85.39 (33.31)	81.35 (31.86)	1.12	.29	2.22	.14	.42	.52	.12

Note:
M = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire
All analyses for the Eating Attitudes Test (EAT) and its subscales used logarithmically transformed values to correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison. Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

Existential Well-Being (EWB)

As shown in Table 4, for EWB, ANOVAs showed significant differences only for the BSQ, $F(1,299) = 18.226$, $p < .001$, $d = .51$. Participants with moderate existential well-being had significantly higher scores on the BSQ than those with high existential well-being. This relationship remained significant when adjusting for demographic

variables with ANCOVA in model 2, but was no longer significant when also adjusting for mood variables with ANCOVA in model 3.

Table 4
Influence of Existential Well-Being on Body Dissatisfaction and Eating Disturbance

Existential Well-Being	Moderate M (SD)	High M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 179	n = 122	F	*p*	F	*p*	F	*p*	*d*
EAT Total	12.62 (14.19)	9.84 (12.76)	2.61	.11	1.58	.21	.84	.36	.19
EAT Dieting	7.94 (8.90)	6.09 (7.67)	2.48	.12	1.50	.22	.44	.51	.19
EAT Bulimia	2.20 (3.88)	1.79 (3.56)	1.00	.32	.72	.40	1.20	.28	.12
EAT Oral Control	2.48 (3.72)	1.97 (3.28)	2.26	.13	1.5	.22	.13	.72	.17
BSQ Total	90.56 (33.76)	74.47 (29.49)	18.23	<.001	15.39	<.001	.26	.61	.51

Note:
M = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire
All analyses for the Eating Attitudes Test (EAT) and its subscales used logarithmically transformed values to correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison. Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance depression, and trait anxiety.

Combined Influence of Religious Orientation and Spiritual Well-Being

Spiritual Well-Being (SWB)

As shown in Table 5, when examining SWB at each level of religious orientation, significant differences were found only among the extrinsic group, where those with moderate SWB had significantly higher means than those with high SWB for the BSQ, $F(1,45) = 4.79$, $p = .03$, $d = .95$. This pattern approached significance for the EAT total, $F(1,45) = 4.79$, $p = .054$, $d = 1.00$ and for the oral control subscale of the EAT, $F(1,45) = 3.63$, $p = .06$, $d = 1.13$. Because of the large differences in sample size between the moderate (n = 40) and high (n = 7) SWB groups, Welch ANOVAs were repeated for

these analyses. All these results were now statistically significant with p-values of .04, .01 and .03, respectively, for the BSQ, EAT total, and oral control subscale of the EAT. Additionally, a significant mean difference emerged with the Welch ANOVA for the dieting subscale of $F(1,45) = 1.36$, $p = .049$, $d = .94$.

Table 5
Combined Influence of Religious Orientation and Spiritual Well-Being

Spiritual Well Being						
Intrinsic		Moderate M (SD)	High M (SD)	ANOVA		
	Variable	n = 60	n = 70	F	*p*	*d*
	EAT Total	8.34 (11.32)	8.91 (11.29)	.32	.57	.05
	EAT Dieting	4.77 (6.45)	5.94 (7.29)	.78	.38	.17
	EAT Bulimia	1.40 (2.98)	1.34 (3.15)	.02	.88	.02
	EAT Oral Control	2.17 (3.71)	1.65 (2.66)	.74	.39	.16
	BSQ Total	78.90 (28.32)	73.34 (27.85)	1.27	.26	.20
Pro-Religious		Moderate M (SD)	High M (SD)	ANOVA		
		n = 31	n = 35	F	*p*	*d*
	EAT Total	12.74 (14.44)	13.81 (14.24)	.33	.57	.07
	EAT Dieting	7.96 (9.15)	8.70 (9.24)	.26	.61	.08
	EAT Bulimia	2.42 (4.17)	2.57 (3.58)	.32	.57	.05
	EAT Oral Control	2.35(3.11)	2.54(4.12)	.17	.68	.05
	BSQ Total	92.80 (39.88)	95.06 (28.85)	.07	.79	.06
Anti-Religious		Moderate M (SD)	High M (SD)	ANOVA		
		n = 51	n = 5	F	*p*	*d*
	EAT Total	11.44 (13.16)	20.20 (27.76)	.38	.54	.40
	EAT Dieting	7.92 (8.66)	10.40 (14.71)	.03	.86	.21
	EAT Bulimia	1.91 (4.00)	4.80 (7.52)	1.90	.17	.48
	EAT Oral Control	1.61(3.21)	5.00 (6.48)	2.70	.11	.66
	BSQ Total	85.22 (35.69)	58.00 (37.72)	2.625	.11	.74
Extrinsic		Moderate M (SD)	High M (SD)	ANOVA		
		n = 40	n = 7	F	*p*	*d*
	EAT Total	17.93 (16.89)	5.71 (2.98)	3.91	.054	1.00
	EAT Dieting	10.52 (10.23)	3.57 (2.14)	1.36	.25	.94
	EAT Bulimia	3.50 (4.57)	1.00 (1.55)	1.40	.24	.73
	EAT Oral Control	3.95 (4.33)	1.14 (1.21)	3.62	.06	1.13
	BSQ Total	97.71 (34.25)	67.57 (29.00)	4.79	.03	.95

Note:
M = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire
All analyses for the Eating Attitudes Test (EAT) and its subscales used logarithmically transformed values to correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison.

Religious Well-Being (RWB)

As shown in Table 6, when examining RWB at each level of religious orientation, among the extrinsic group, there were no significant differences between those participants with moderate RWB and those with high RWB. For the EAT total, $F(1,45) = 2.84$, $p = .10$, $d = .96$, and the bulimia subscale of the EAT, $F(1,45) = 2.83$, $p = .10$, $d = .95$. However, because of the unequal sample sizes between the moderate (n = 42) and high (n = 5) RWB groups, Welch ANOVAs were repeated on the above analyses. These results were now significant with p-values of .06 and .006, respectively, for the EAT total and bulimia subscale of the EAT.

Table 6
Combined Influence of Religious Orientation and Religious Well-Being

Religious Well-Being						
Intrinsic		Moderate M (SD)	High M (SD)	ANOVA		
	Variable	n = 46	n = 84	F	*p*	*d*
	EAT Total	7.09 (8.43)	9.50 (12.51)	.68	.41	.23
	EAT Dieting	4.20 (5.03)	6.06 (7.70)	1.26	.26	.29
	EAT Bulimia	0.96 (2.17)	1.57 (3.44)	.88	.35	.21
	EAT Oral Control	1.94 (2.91)	1.87 (3.34)	.44	.51	.02
	BSQ Total	75.52 (26.28)	76.13 (29.19)	.01	.91	.02
Pro-Religious		Moderate M (SD)	High M (SD)	ANOVA		
		n = 21	n = 45	F	*p*	*d*
	EAT Total	10.57 (7.86)	14.59 (16.31)	.001	.98	.31
	EAT Dieting	6.86 (5.95)	9.05 (10.28)	.002	.96	.26
	EAT Bulimia	1.95 (3.29)	2.75 (4.07)	.51	.48	.22
	EAT Oral Control	1.76 (1.95)	2.78 (4.15)	.18	.67	.31

	BSQ Total	93.29 (34.96)	94.33 (32.72)	.01	.91	.03
Anti-Religious		Moderate M (SD)	High M (SD)	ANOVA		
		n = 51	n = 5	F	*p*	*d*
	EAT Total	10.09 (11.92)	18.00 (23.38)	1.04	.31	.43
	EAT Dieting	6.93 (7.90)	10.14 (12.29)	.61	.43	.31
	EAT Bulimia	1.42 (3.27)	4.29 (6.45)	3.47	.07	.56
	EAT Oral Control	1.73 (3.37)	3.57 (5.83)	.58	.45	.39
	BSQ Total	82.18 (33.31)	67.00 (38.40)	1.21	.28	.42
Extrinsic		Moderate M (SD)	High M (SD)	ANOVA		
		n = 42	n = 5	F	*p*	*d*
	EAT Total	17.38 (16.69)	5.80 (3.63)	2.84	.10	.96
	EAT Dieting	10.16 (10.11)	3.80 (2.59)	.83	.37	.86
	EAT Bulimia	3.45 (4.46)	0.40 (0.55)	2.83	.10	.95
	EAT Oral Control	3.76 (4.31)	1.60 (1.14)	.71	.40	.67
	BSQ Total	95.68 (34.99)	72.60 (30.15)	1.99	.16	.71

Note:
M = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire
All analyses for the Eating Attitudes Test (EAT) and its subscales used logarithmically transformed values to correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison.

Existential Well-Being (EWB)

As shown in Table 7, when examining EWB at each level of religious observance, significant differences were found among the intrinsic and extrinsic groups where those with moderate EWB scored significantly higher than those with high EWB. Among the intrinsic group, for the BSQ, $F(1,128) = 14.54$, $p < .001$, $d = .67$. Among the extrinsic group, for the EAT total, $F(1,45) = 4.11$, $p = .05$, $d = .54$, and for the oral control subscale of the EAT, $F(1,45) = 4.54$, $p = .04$, $d = .46$. Because of the unequal sample sizes between the moderate (n = 35) and high (n = 12) EWB groups among extrinsic participants, Welch ANOVAs were repeated for these analyses. These results remained

significant with p-values of .04 and .06, respectively, for the EAT total score, and the EAT oral control subscale of the EAT.

Table 7
Combined Influence of Religious Orientation and Existential Well-Being

Existential Well-Being						
		Moderate M (SD)	High M (SD)	ANOVA		
Intrinsic	Variable	n = 63	n = 67	F	*p*	*d*
	EAT Total	9.45 (11.92)	7.90 (10.65)	.56	.45	.14
	EAT Dieting	5.89 (7.31)	4.94 (6.54)	.80	.37	.14
	EAT Bulimia	1.41 (2.91)	1.30 (3.21)	.23	.63	.04
	EAT Oral Control	2.15 (3.71)	1.66 (2.60)	.60	.44	.15
	BSQ Total	85.13 (29.45)	67.24 (23.90)	14.53	<.001	.67
Pro-Religious		Moderate M (SD)	High M (SD)	ANOVA		
		n = 36	n = 30	F	*p*	*d*
	EAT Total	13.97 (15.23)	12.51 (13.16)	.001	.98	.10
	EAT Dieting	8.86 (9.82)	7.75 (8.36)	.02	.90	.12
	EAT Bulimia	2.47 (4.04)	2.53 (3.65)	.12	.73	.02
	EAT Oral Control	2.64 (3.34)	2.23 (3.97)	.93	.34	.11
	BSQ Total	97.19 (37.41)	90.18 (30.11)	.68	.41	.21
Anti-Religious		Moderate M (SD)	High M (SD)	ANOVA		
		n = 51	n = 5	F	*p*	*d*
	EAT Total	11.57 (13.49)	13.77 (18.44)	.09	.76	.14
	EAT Dieting	7.96 (8.80)	8.23 (10.28)	.02	.88	.03
	EAT Bulimia	1.97 (4.12)	2.77 (5.13)	.34	.56	.17
	EAT Oral Control	1.64 (3.37)	2.77 (4.36)	1.24	.27	.29
	BSQ Total	87.09 (36.30)	71.00 (32.90)	2.06	.16	.46
Extrinsic		Moderate M (SD)	High M (SD)	ANOVA		
		n = 35	n = 12	F	*p*	*d*
	EAT Total	18.31 (16.27)	9.83 (14.84)	4.11	.05	.54
	EAT Dieting	10.65 (10.06)	6.08 (8.36)	.66	.42	.49
	EAT Bulimia	3.66 (4.58)	1.58 (3.12)	2.32	.14	.53
	EAT Oral Control	4.00 (4.21)	2.17 (3.76)	4.54	.04	.46
	BSQ Total	97.98 (32.63)	79.33 (39.21)	2.63	.11	.51

Note:
M = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire. All analyses for the Eating Attitudes Test (EAT) and its subscales used logarithmically transformed values to

correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison.

Thin Ideal Internalization, Superwoman Ideal, Social Comparison, and Eating Disorder Symptoms

As shown in Table 8, both the EAT and its subscales and the BSQ were significantly positively correlated with the psychosocial variables of thin ideal internalization (as measured by the SATAQ), the superwoman ideal, and social comparison to celebrities and peers. This pattern is consistent with that seen in the literature, where endorsement and internalization of media ideals, adherence to the Superwoman Ideal, and high levels of social comparison are directly related to higher scores on the EAT and BSQ.

Table 8
Pearson Correlations between Eating Disorder Symptomatology and Psychosocial Variables

	EAT Total	EAT Dieting	EAT Bulimia	EAT Oral Control	BSQ
SATAQ	.43**	.42**	.36**	.12*	.59**
SATAQ Internalization	.34**	.39**	.35**	.08	.54**
Superwoman Ideal	.31**	.28**	.21**	.13*	.37**
Comparison- Peers	.32**	.27**	.32**	.14*	.48**
Comparison- Celebrities	.35**	.30**	.31**	.15**	.52**

Note:
SATAQ = Sociocultural Attitudes Towards Appearance Scale, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire
*p <.05, ** p <.01

Religious Orientation and Thin Ideal Internalization, Superwoman Ideal, and Social Comparison

As shown in Table 9, ANOVAs were conducted with religious orientation as the independent variable. Dependent variables were the SATAQ and its subscale, the Superwoman Ideal, and social comparison to peers and models/celebrities. All omnibus ANOVAs were significant for religious orientation at or below the p =.01 level. Consistent with our hypothesis, an overall pattern of mean values existed for the intrinsic (lowest mean scores), anti-religious (next to lowest mean scores), pro-religious (next to highest mean scores), and extrinsic (highest mean scores) groups on every dependent measure.

LSD post-hoc comparisons for the total SATAQ showed significant differences between the intrinsic and extrinsic groups (p<.001), between the intrinsic and pro-religious groups (p<.001), and between the intrinsic and anti-religious groups (p = .005). For the internalization subscale of the SATAQ, post-hoc comparisons showed significant differences between the intrinsic and extrinsic groups (p<.001), between the intrinsic and pro-religious groups (p=.001), and between the intrinsic and anti-religious groups (p = .001).

For the Superwoman Ideal, post-hoc comparisons showed significant differences between the intrinsic and extrinsic groups (p = .001), between the intrinsic and pro-religious groups (p<.001), and between the intrinsic and anti-religious groups (p<.001).

For social comparison to peers, post-hoc comparisons showed significant differences between the intrinsic and pro-religious groups (p = .001) and the difference approached significance between the intrinsic and extrinsic groups (p = .058). For social

comparison to models/celebrities, post-hoc comparisons showed significant differences between the intrinsic and extrinsic groups ($p<.001$), between the intrinsic and pro-religious groups ($p<.001$), and between the intrinsic and anti-religious groups ($p<.001$). This pattern of results remained the same after adjusting for demographic variables with ANCOVA in model 2. Using ANCOVA in model 3, which adjusted for mood variables, the results for Social Comparison to Peers were no longer significant ($p = .01$).

Table 9
Influence of Religious Orientation on Thin Ideal Internalization, Adherence to the Superwoman Ideal, and Social Comparison Processes

	Intrinsic M (SD)	Anti-Religious M (SD)	Pro-Religious M (SD)	Extrinsic M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 130	n = 58	n = 66	n = 47	*F*	*p*	F	*p*	*F*	*p*	eta^2
SATAQ	79.92 (23.38)	91.01 (24.61)	95.86 (23.34)	97.98 (24.41)	10.45	<.001	8.69	<.001	5.63	.001	.10
SATAQ Internalization	24.46 (8.76)	29.29 (9.56)	29.19 (9.03)	30.04 (8.83)	7.63	<.001	6.274	<.001	3.99	.01	.07
Superwoman Ideal	75.34 (12.15)	82.52 (11.98)	83.95 (11.96)	82.22 (10.10)	10.62	<.001	9.55	<.001	6.57	<.001	.10
Comparison-Peers	48.07 (12.95)	50.37 (13.42)	55.00 (12.91)	52.33 (14.88)	4.31	.005	3.79	.01	2.08	.10	.04
Comparison-Celebrities	38.23 (13.06)	46.67 (14.06)	48.86 (15.57)	48.47 (17.01)	11.37	<.001	9.74	<.001	6.74	<.001	.11

Note:
M = Mean, SD = Standard Deviation, SATAQ = Sociocultural Attitudes Towards Appearance Scale,
Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

Spiritual Well-Being and Thin Ideal Internalization, Superwoman Ideal, and Social Comparison

Participants were categorized as being low, moderate, or high on each type of spiritual well-being. However, because the "low" groups had sample sizes of 2, 6 and 0 for the SWB, RWB and EWB respectively, they were eliminated and all analyses were conducted for those individuals categorized as either moderate or high on each type of well-being.

Spiritual Well-Being (SWB)

As shown in Table 10, for spiritual well-being, ANOVAs showed significant differences on every sociocultural dependent measure except for social comparison to peers. Participants with moderate SWB had significantly higher scores on the SATAQ and its internalization subscale, adherence to the Superwoman Ideal, and social comparison to models/celebrities, than those with high SWB. All significant findings remained after adjusting for demographic variables with ANCOVA in model 2. When also adjusting for mood variables with ANCOVA in model 3, only those results for the total SATAQ and its internalization subscale remained significant.

Table 10
Influence of Spiritual Well-Being on Thin Ideal Internalization, Adherence to the Superwoman Ideal, and Social Comparison Processes

Spiritual Well-Being	Moderate M (SD)	High M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 182	n =117	F	*p*	F	*p*	F	*p*	*d*
SATAQ	93.59 (23.37)	80.79 (25.52)	19.87	<.001	20.81	<.001	8.44	.004	.52
SATAQ Internalization (General)	29.17 (8.86)	24.51 (9.32)	19.02	<.001	19.90	<.001	9.18	.003	.51
Superwoman Ideal	81.59 (11.47)	76.71 (13.06)	11.51	.001	11.38	.001	3.14	.07	.40
Comparison – Peers	51.73 (12.72)	48.90 (14.31)	3.20	.08	2.57	.11	.64	.42	.21
Comparison – Celebrities	46.37 (14.33)	39.95 (16.29)	12.82	<.001	12.21	.001	2.70	.10	.42

Note:
M = Mean, SD = Standard Deviation, SATAQ = Sociocultural Attitudes Towards Appearance Scale, Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

Religious Well-Being (RWB)

As shown in Table 11, for religious well-being, ANOVAs showed significant differences for the total SATAQ and its internalization subscale, the Superwoman Ideal, and social comparison to models and celebrities (all p-values < .01). Those participants with moderate RWB had significantly higher scores on the SATAQ and the above mentioned subscale, adherence to the Superwoman Ideal, and social comparison to models/celebrities. All significant findings remained after adjusting for demographic variables with ANCOVA in model 2, and for mood variables with ANCOVA in model 3.

Table 11
Influence of Religious Well-Being on Thin Ideal Internalization, Adherence to the Superwoman Ideal, and Social Comparison Processes

Religious Well-Being	Moderate M (SD)	High M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 154	n = 141	F	*p*	F	*p*	F	*p*	*d*
SATAQ	92.62 (23.03)	83.63 (26.03)	9.89	.002	10.32	.001	6.84	.01	.37
SATAQ Internalization (General)	28.97 (8.71)	25.39 (9.53)	11.35	.001	12.09	.001	8.69	.003	.39
Superwoman Ideal	81.54 (12.16)	77.43 (12.27)	8.33	.004	7.97	.005	4.95	.03	.34
Comparison – Peers	50.79 (13.44)	50.35 (13.42)	.08	.78	.03	.87	.79	.37	.03
Comparison – Celebrities	46.25 (14.01)	40.97 (16.09)	9.07	.003	8.48	.004	5.20	.02	.35

Note:
M = Mean, SD = Standard Deviation, SATAQ = Sociocultural Attitudes Towards Appearance Scale, Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

Existential Well-Being (EWB)

As shown in Table 12, for existential well-being, ANOVAs showed significant differences on every sociocultural dependent variable (all p-values at or below .01). Those participants with moderate EWB had significantly higher scores on the SATAQ and its subscale, adherence to the Superwoman Ideal, and social comparison to both peers and models/celebrities. All results remained significant when controlling for demographic variables with ANCOVA in model 2. When also adjusting for mood variables with ANCOVA in model 3, the results for total SATAQ and its internalization subscale approached significance while the others were not significant.

Table 12
Influence of Existential Well-Being on Thin Ideal Internalization, Adherence to the Superwoman Ideal, and Social Comparison Processes

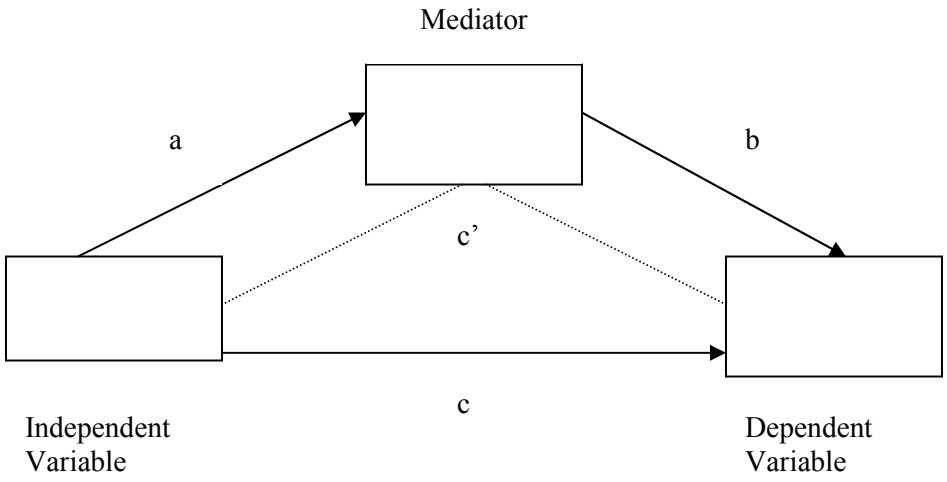
Existential Well-Being	Moderate M (SD)	High M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 179	n = 122	F	*p*	F	*p*	F	*p*	*d*
SATAQ	94.08 (22.42)	80.90 (26.59)	21.52	<.001	20.33	<.001	3.79	.053	.54
SATAQ Internalization (General)	29.25 (8.56)	24.73 (9.76)	18.01	<.001	17.83	<.001	4.04	.05	.49
Superwoman Ideal	81.09 (11.33)	77.41 (13.45)	6.45	.01	6.60	.01	.02	.90	.30
Comparison – Peers	53.22 (11.82)	46.83 (14.60)	17.14	<.001	16.43	<.001	1.01	.32	.48
Comparison – Celebrities	46.59 (14.29)	39.67 (15.68)	15.49	<.001	13.68	<.001	1.31	.25	.46

Note:
M = Mean, SD = Standard Deviation, SATAQ = Sociocultural Attitudes Towards Appearance Scale, Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

Mediators of the Relationship between Religious Orientation and Eating Disorder Symptoms

Mediation occurs when one variable mediates or facilitates the relationship between an independent and dependent variable, as illustrated in Figure 1. When complete mediation is present, the initial relationship between the independent and dependent variable is attenuated, and the independent variable is no longer significant after the mediator variable is added to the regression equation, while the mediator variable significantly affects the dependent variable (Baron & Kenny, 1986; Kenny, 2006). Partial mediation allows for a significant relationship of the independent variable to the dependent variable to remain but the independent variable beta coefficients must be less in this model, which includes the mediator variable, than the relationship of the model with just the independent and dependent variables. In an attempt to elucidate the mechanisms underlying the relationship observed above between religious orientation and eating disturbance and body dissatisfaction, several mediation analyses were conducted using the SATAQ and Superwoman Ideal as mediators.

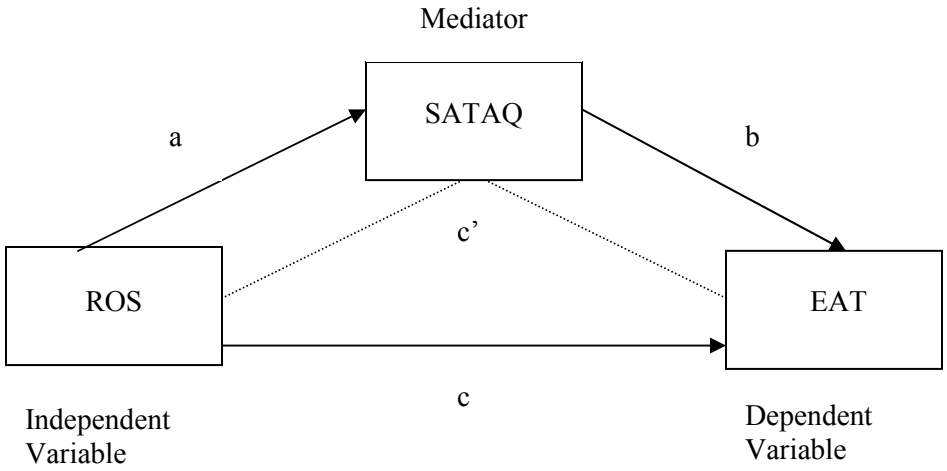
Figure 1
General Mediation Model



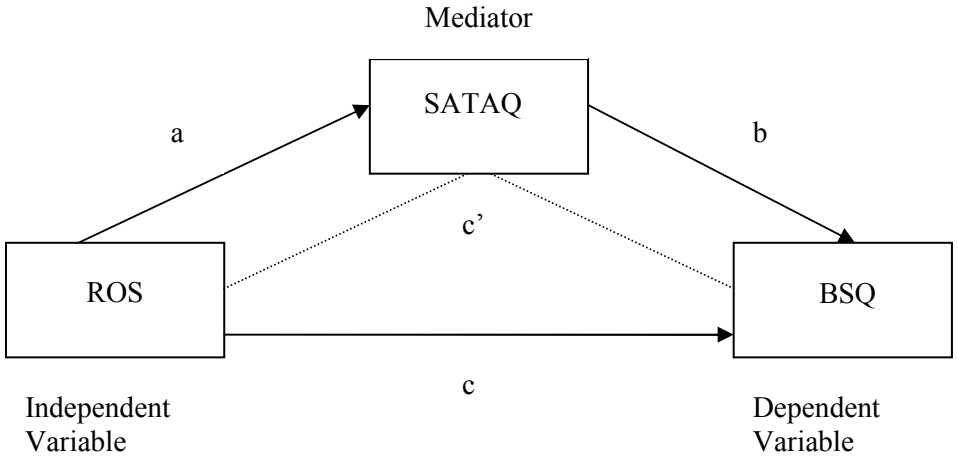
As illustrated by Figure 2, a total of four mediation models were tested. The SATAQ and Superwoman Ideal were independently tested as mediators for the relationship between religious orientation and the EAT and BSQ. In order to test for mediation several criteria must be met. As illustrated in Figure 1, a significant relationship must be established between the independent and dependent variable (path c), between the independent variable and proposed mediation variable (path a), and then testing of the mediation pathway (path c') between both the independent variable and the mediation variable to the dependent variable may proceed (Baron & Kenny, 1986; Kenny, 2006). Multiple regression was used to establish the significance of each pathway (a – c) and test for mediation (path c') in each mediation model.

Figure 2
Mediation Models for SATAQ and Superwoman Ideal as Mediators of the Relationship Between ROS and EAT or BSQ

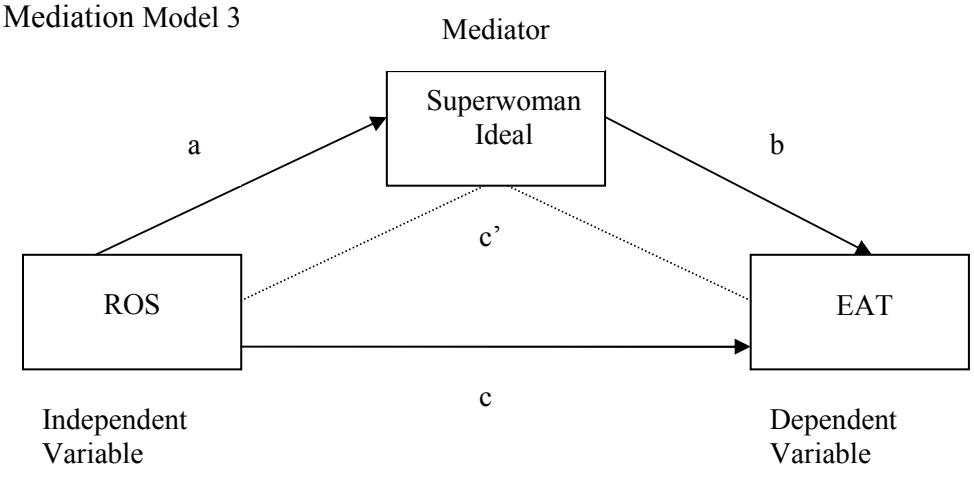
a) Mediation Model 1



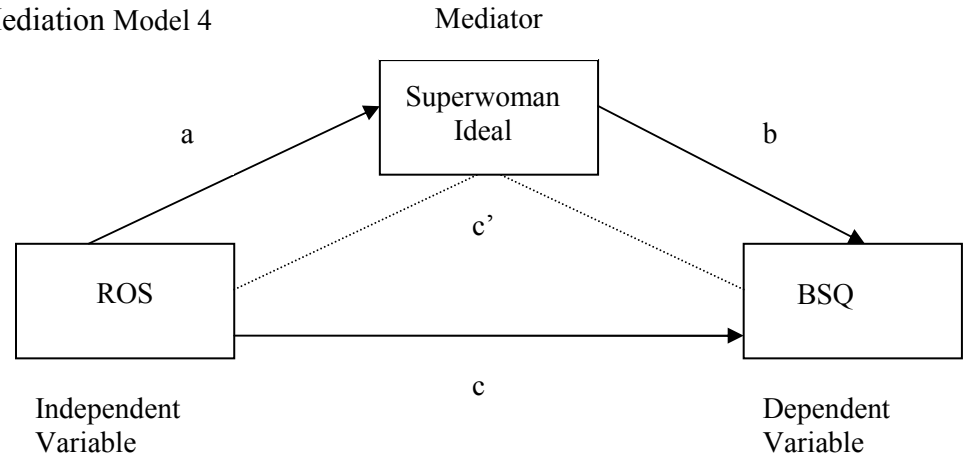
b) Mediation Model 2



c) Mediation Model 3



d) Mediation Model 4



Mediation Model 1

Mediation model 1 used the SATAQ as a mediator to explain the relationship between religious orientation and eating disturbance, as measured by the EAT. As shown in Table 13, there was a significant relationship between religious orientation and scores on the EAT (path c). After controlling for all relevant demographic and mood variables, as compared to the intrinsic group, both extrinsic and pro-religious orientations were significant predictors of eating disturbance; extrinsic orientation, B = .25, t = 3.40, p = .001 and pro-religious orientation, B = .16, t = 2.41, p = .02.

Table 13
Relationship between Religious Orientation and Eating Disturbance as Measured by the EAT (Path c - Mediation Models 1 and 3)

Variable	B	SE	t	*p*	95% CI	VIF
Extrinsic	.25	.07	3.40	.001	.11, .40	1.18
Pro-Religious	.16	.07	2.41	.02	.03,.30	1.19
Anti-Religious	.07	.07	1.01	.32	.07, .20	1.20
Age	.02	.01	1.67	.10	-.003, .04	1.01
BMI	.02	.01	2.2	.03	.002, .04	1.03
Observance Level	.00	.00	.45	.65	.00, .001	1.01
Depression	.01	.004	2.21	.03	.001, .02	1.83
Anxiety	.01	.004	1.38	.17	-.002, .01	1.81

Note: EAT = Eating Attitudes Test, CI = confidence interval, SE = Standard Error, VIF = Variance Inflation Factor

As shown in Table 14, the relationship between religious orientation and the SATAQ (path a) was significant. After controlling for relevant demographic and mood variables, compared to an intrinsic orientation, extrinsic orientation, B = 12.96, t = 3.30, p = .001, pro-religious orientation, B = 11.06, t = 3.12, p = .002, and anti-religious orientation, B = 10.23, t = 3.60, p = .002 were significant predictors of scores on the SATAQ.

Table 14
Relationship between Religious Orientation and Sociocultural Attitudes as Measured by the SATAQ (Path a - Mediation Models 1 and 2)

Variable	B	SE	t	*p*	95% CI	VIF
Extrinsic	12.96	3.93	3.30	.001	5.22, 20.70	1.18
Pro-Religious	11.06	3.55	3.12	.002	4.08, 18.04	1.19
Anti-Religious	10.23	3.60	2.84	.005	3.14, 17.32	1.20
Age	-.08	.55	-.15	.88	-1.16, 1.00	1.01
BMI	.68	.45	1.52	.13	-.21, 1.57	1.03
Observance Level	.003	.01	.25	.80	-.02, .03	1.01
Depression	.01	.20	.07	.94	-.38, .41	1.83
Anxiety	1.14	.22	5.17	<.001	.70, 1.57	1.81

Note: SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire, CI = confidence interval, SE = Standard Error, VIF = Variance Inflation Factor

Once the above criteria were established, mediation model 1 was tested. When testing for mediation, both the mediator (SATAQ) and independent variable (ROS) were added to the model. As shown in Table 15, the SATAQ remained a significant predictor of EAT scores, B = .01, t = 5.57, p <.001. Extrinsic orientation remained significant with both the beta weight and significance level reduced, b = .17, t = 2.43, *p* = .02, and pro-religious orientation was no longer significant, suggesting that the SATAQ is a mediator of the relationship between religious orientation and eating disturbance.

Table 15
Mediation Model 1 – SATAQ as a Mediator of the Relationship between Religious Orientation and Eating Disturbance (Path c')

Variable	B	SE	t	*p*	95% CI	VIF
Extrinsic	.17	.07	2.43	.02	.33, .32	1.23
Pro-Religious	.10	.06	1.47	.14	-.32, .22	1.23
Anti-Religious	.01	.07	.11	.91	-.12, .14	1.23
Age	.02	.01	1.79	.07	-.002, .04	1.04
BMI	.02	.01	1.82	.07	-.001, .03	1.01
Observance Level	.00	.00	.39	.70	.00, .001	1.83
Depression	.01	.004	2.30	.02	.001, .02	1.99
Anxiety	-.001	.004	-.27	.80	-.01, .01	1.30
SATAQ	.01	.001	5.57	<.001	.004, .01	1.22

Note: SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire, CI = confidence interval, SE = Standard Error, VIF = Variance Inflation Factor

As shown in Table 16, the Sobel and Goodman Tests confirmed that the above mediation analysis was significant with p-values of .004, .01, and .004 respectively for the Sobel, Goodman 1, and Goodman 2 tests. Furthermore, 30.82% of the relationship between religious orientation and eating disturbance was mediated by the SATAQ.

Table 16
Sobel and Goodman Tests of Mediation - Mediation Model 1

	z	*p*
Sobel	2.84	.004
Goodman 1	2.80	.01
Goodman 2	2.87	.004
Percent of Total Effect that is Mediated	30.82%	
Ratio of Indirect to Direct Effects	.45	

Mediation Model 2

Mediation model 2 used the SATAQ as a mediator to explain the relationship between religious orientation and body dissatisfaction, as measured by the BSQ. As shown in Table 17, there was a significant relationship between religious orientation and scores on the BSQ (path c). After controlling for relevant demographic and mood variables, compared to an intrinsic orientation, extrinsic and pro-religious orientations were significant predictors of body dissatisfaction; B = 13.62, t = 2.89, p = .004 and B = 12.26, t = 2.88, p = .004, respectively.

Table 17
Relationship between Religious Orientation and Body Dissatisfaction as measured by the BSQ (Path c - Mediation Models 2 and 4)

Variable	B	SE	t	*p*	95% CI	VIF
Extrinsic	13.62	4.72	2.89	.004	4.33, 22.90	1.18
Pro-Religious	12.26	4.25	2.88	.004	3.88, 20.64	1.19
Anti-Religious	4.02	4.32	.93	.35	-4.50, 12.53	1.20
Age	.41	.66	.62	.54	-.89, 1.70	1.01
BMI	3.57	.54	6.59	<.001	2.50, 4.64	1.03
Observance Level	.03	.02	1.75	.08	-.003,.06	1.01
Depression	.61	.24	2.53	.01	.134, 1.08	1.83
Anxiety	1.19	.26	4.50	<.001	.67, 1.71	1.81

Note: BSQ = Body Shape Questionnaire, CI = confidence interval, SE = Standard Error, VIF = Variance Inflation Factor

Significance for path a, the relationship between religious orientation and the SATAQ, is the same for mediation model 1, and was established and illustrated above in Table 14.

Once the above criteria were established, mediation model 2 was tested. When testing for mediation both the mediator (SATAQ) and independent variable (ROS) were added to the model. As shown in Table 18, the SATAQ remained a significant predictor of BSQ scores, B = .58, t = 9.26, p <.001. Extrinsic and pro-religious orientations were no longer significant, suggesting that the SATAQ is a mediator of the relationship between religious orientation and body dissatisfaction.

Table 18
Mediation Model 2 – SATAQ as a mediator of the Relationship between Religious Orientation and Body Dissatisfaction (Path c')

Variable	B	SE	t	*p*	95% CI	VIF
Extrinsic	6.04	4.21	1.44	.15	-2.24, 14.33	1.22
Pro-Religious	5.80	3.79	1.53	.13	-1.66, 13.26	1.23
Anti-Religious	-1.96	3.84	-.51	.61	-9.52, 5.59	1.23
Age	.45	.58	.79	.43	-.68, 1.59	1.01
BMI	3.17	.48	6.66	<.001	2.32, 4.11	1.04
Observance Level	.03	.01	1.86	.06	-.001, .05	1.01
Depression	.60	.21	2.85	.01	.12, 1.01	1.83
Anxiety	.52	.24	2.16	.03	.05, 1.00	1.99
SATAQ	.58	.06	9.26	<.001	.46, .71	1.23

Note: SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire, CI = Confidence Interval, SE = Standard Error, VIF = Variance Inflation Factor

As shown in Table 19, the Sobel and Goodman Tests confirmed that the above mediation analysis was significant with p- values of .002, .002, and .002 respectively for the Sobel, Goodman 1 and Goodman 2 tests. Furthermore, 55.61% of the relationship between religious orientation and body dissatisfaction was mediated by the SATAQ.

Table 19
Sobel and Goodman Tests of Mediation - Mediation Model 2

	z	*p*
Sobel	3.11	.002
Goodman 1	3.10	.002
Goodman 2	3.12	.002
Percent of Total Effect that is Mediated	55.61%	
Ratio of Indirect to Direct Effects	1.23	

Mediation Model 3

Mediation model 3 used the Superwoman Ideal as a mediator to explain the relationship between religious orientation and eating disturbance, as measured by the EAT. Path c for mediation model 3, the relationship between religious orientation and scores on the EAT, is the same as that in mediation model 1, and significance was established above and illustrated in Table 13.

As shown in Table 20, the relationship between religious orientation and the Superwoman Ideal (path a) was significant. After controlling for relevant demographic and mood variables, religious orientation was a significant predictor of scores on the Superwoman Ideal; extrinsic orientation, B = 4.79, t = 2.41, p = .02, pro-religious orientation, B = 6.80, t = 3.79, p = <.001, and anti-religious orientation, B = 5.85, t = 1.83, p = .002.

Table 20
Relationship between Religious Orientation and Adherence to the Superwoman Ideal (Path a - Mediation Models 3 and 4)

Variable	B	SE	t	*p*	95% CI	VIF
Extrinsic	4.79	1.99	2.41	.02	.87, 8.71	1.18
Pro-Religious	6.80	1.79	3.79	<.001	3.27, 10.34	1.19
Anti-Religious	5.85	1.83	3.20	.002	3.26, 9.44	1.20
Age	.12	.28	.42	.67	-.43, .66	1.01
BMI	-.15	.23	-65	.52	-.60, .30	1.03
Observance Level	-.01	.01	-1.24	.22	-.02, .01	1.01
Depression	-.06	.10	-.63	.53	-.26, .14	1.83
Anxiety	.58	.11	5.21	<.001	.36, .80	1.81

Note: CI = Confidence Interval, SE = Standard Error, VIF = Variance Inflation Factor

Once the above criteria were established, mediation model 3 was tested. When testing for mediation both the mediator (Superwoman Ideal) and independent variable (ROS) were added to the model. As shown in Table 21, the Superwoman Ideal remained a significant predictor of BSQ scores, B = .01, t = 3.77, p <.001. Extrinsic orientation remained significant with both the beta weight and significance levels reduced, B = .21, t = 2.91, p = .004, and pro-religious orientation was no longer significant, suggesting that the Superwoman Ideal is a mediator of the relationship between religious orientation and eating disturbance.

Table 21
Mediation Model 3 – Adherence to the Superwomen Ideal as a mediator of the Relationship between Religious Orientation and Eating Disturbance (Path c')

Variable	B	SE	t	*p*	95% CI	VIF
Extrinsic	.21	.07	2.91	.004	-.07, .36	1.20
Pro-Religious	.10	.07	1.57	.12	-.03, .24	1.25
Anti-Religious	.02	.07	.31	.76	-.11, .15	1.24
Age	.02	.01	1.60	.11	-.004, .36	1.01
BMI	.02	.01	2.42	.02	.004, .36	1.03
Observance Level	.00	.00	.74	.46	.00, .001	1.02
Depression	.01	.004	2.40	.02	.002, .02	1.83
Anxiety	.001	.004	.22	.83	-.01, .01	1.99
Superwoman	.01	.002	3.77	<.001	.004, .02	1.27

Note: CI = Confidence Interval, SE = Standard Error, VIF = Variance Inflation Factor

As shown in Table 22, the Sobel and Goodman Tests confirmed that the above mediation analysis was significant with p-values of .04, .05, and .04 respectively for the Sobel, Goodman 1, and Goodman 2 tests. Furthermore, 15.65% of the relationship between religious orientation and eating disturbance was mediated by the Superwoman Ideal.

Table 22
Sobel and Goodman Tests of Mediation - Mediation Model 3

	z	*p*
Sobel	2.03	.04
Goodman 1	1.98	.05
Goodman 2	2.08	.04
Percent of Total Effect that is Mediated	15.65%	
Ratio of Indirect to Direct Effects	.19	

Mediation Model 4

Path c for mediation model 4, the relationship between religious orientation and body dissatisfaction, is the same as is mediation model 2 and its significance was established above and illustrated in Table 17. Path a for mediation model 4, the relationship between religious orientation and the Superwoman Ideal, is the same as for mediation model 3, and its significance was established above and illustrated in Table 20.

Once the above criteria were established, mediation model 4 was tested. When testing for mediation both the mediator (Superwoman Ideal) and independent variable (ROS) were added to the model. As shown in Table 23, the Superwoman Ideal remained a significant predictor of BSQ scores, B = .64, t = 4.70, p <.001. Extrinsic orientation remained significant with both the beta weight and significance levels reduced, B = 10.53, t = 2.29, p = .02 and pro-religious orientation was no longer significant, suggesting that the Superwoman Ideal is a mediator of the relationship between religious orientation and body dissatisfaction.

Table 23
Mediation Model 4 – Adherence to the Superwomen Ideal as a mediator of the Relationship between Religious Orientation and Body Dissatisfaction (Path c')

Variable	B	SE	t	*p*	95% CI	VIF
Extrinsic	10.53	4.60	2.29	.02	1.49, 19.58	1.20
Pro-Religious	7.88	4.20	1.87	.06	-.40, 16.16	1.25
Anti-Religious	.25	4.25	.06	.95	-8.11, 8.61	1.24
BMI	3.66	.52	4.01	<.001	2.64, 4.70	1.03
Observance Level	.03	.02	2.16	.03	.003, .06	1.02
Depression	.65	.23	2.80	.01	.19, 1.10	1.83
Anxiety	.81	.27	3.05	.003	.29, 1.34	1.99
Superwoman	.64	.14	4.70	<.001	.37, .91	1.27

Note: CI = Confidence Interval, SE = Standard Error, VIF = Variance Inflation Factor

As shown in Table 24, the Sobel and Goodman Tests confirmed that the above mediation analysis was significant with p- values of .03, .04, and .03 respectively for the Sobel, Goodman 1, and Goodman 2 tests. Furthermore, 22.65% of the relationship between religious orientation and body dissatisfaction was mediated by the Superwoman Ideal.

Table 24
Sobel and Goodman Tests of Mediation - Mediation Model 4

	z	*p*
Sobel	2.14	.03
Goodman 1	2.10	.04
Goodman 2	2.18	.03
Percent of Total Effect that is Mediated	22.65%	
Ratio of Indirect to Direct Effects	.03	

Educational Setting, Eating Disorder Symptoms and Sociocultural Influences

As shown in Table 25, ANOVA was conducted with gender composition (all-girls vs. coed high schools) as the independent variable. Dependent variables included the EAT and its subscales, the BSQ, the SATAQ and the internalization subscale, the Superwoman Ideal, and the social comparison scales. For the total sample, significant differences were seen for the Superwoman Ideal, $F(1,286) = 5.25$, $p = .02$, $\eta^2 = .02$, and for social comparison to models/celebrities, $F(1,286) = 5.13$, $p = .02$, $\eta^2 = .02$, where participants that attended coed high schools had higher mean scores. These results remained significant when controlling for demographic variables with ANCOVA in model 2, and also when adjusting for mood variables with ANCOVA in model 3.

Table 25
Influence of Educational Setting on Body Image, Eating Disturbance, Sociocultural Attitudes Towards Appearance, Adherence to the Superwoman Ideal, and Social Comparison (Total Sample)

	All-Girls M (SD)	Coed M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 191	n = 97	F	*p*	F	*p*	F	*p*	eta^2
EAT Total	11.16 (14.00)	11.91 (12.88)	.43	.51	.08	.77	.00	.99	.001
EAT Dieting	6.87 (8.28)	7.63 (8.60)	.54	.46	.07	.79	.00	.99	.002
EAT Bulimia	1.96 (3.89)	2.13 (3.50)	.43	.51	.04	.85	.01	.92	.002
EAT Oral Control	2.34 (3.87)	2.14 (2.82)	.01	.92	.00	.99	.01	.92	.00
BSQ Total	81.93 (32.15)	87.36 (33.2)	1.79	.18	1.48	.23	.77	.38	.006
SATAQ Total	86.93 (25.10)	91.21 (24.90)	1.89	.17	2.55	.11	2.24	.14	.007
SATAQ Internalization	26.82 (9.07)	28.13 (9.66)	1.29	.26	2.33	.13	2.10	.15	.004
Superwoman Ideal	78.50 (12.65)	82.00 (11.03)	5.248	.02	5.70	.02	5.63	.02	.02
Social Comparison Peers	50.57 (13.28)	50.44 (13.27)	.006	.94	.06	.81	.002	.96	.00
Social Comparison Models/Celebrities	42.17 (15.24)	46.48 (15.25)	5.13	.02	6.45	.01	6.67	.01	.02

Note:
M = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire, SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire
All analyses for the Eating Attitudes Test (EAT) and its subscales used log logarithmically transformed values to correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison. Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

As shown in Table 26, for the sample of just college women, and excluding the current all-girls high school students, participants who attended coed high schools had significantly higher scores for the Superwoman Ideal, $F(1,213) = 3.83$, $p = .05$, $\eta^2 = .02$, and for the social comparison to models/celebrities, $F(1,213) = 5.97$, $p = .02$, $\eta^2 = .03$. Also, the SATAQ Total approached significance (p=.07). The social comparison to models/celebrities results remained significant when adjusting for demographic variables with ANCOVA in model 2 and adjusting for mood variables with ANCOVA in model 3. The SATAQ Total was not significant in Model 2 and became significant in Model 3. The Superwomen Ideal only approached significance in both Models 2 and 3.

Table 26
Influence of Educational Setting on Body Image, Eating Disturbance, Sociocultural Attitudes Towards Appearance, Adherence to the Superwoman Ideal, and Social Comparison (College Students Only)

	All-Girls M (SD)	Coed M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 118	n = 97	F	*p*	F	*p*	F	*p*	eta^2
EAT Total	12.18 (14.91)	11.91 (12.88)	.02	.89	.008	.93	.13	.72	.000
EAT Dieting	7.56 (8.87)	7.63 (8.60)	.006	.94	.009	.93	.11	.75	.000
EAT Bulimia	2.22 (4.36)	2.13 (3.50)	.08	.78	.001	.98	.08	.78	.000
EAT Oral Control	2.41 (4.06)	2.14 (2.82)	.002	.97	.01	.91	.05	.83	.000
BSQ Total	82.61 (33.11)	87.36 (33.24)	1.09	.30	.81	.37	.34	.56	.005
SATAQ Total	85.03 (25.56)	91.21 (24.89)	3.18	.07	2.61	.11	2.24	.04	.02
SATAQ Internalization	26.22 (9.22)	28.13 (9.66)	2.19	.14	1.31	.25	1.03	.31	.01
Superwoman Ideal	78.72 (12.94)	81.97 (11.03)	3.83	.05	3.34	.07	3.18	.08	.02
Social Comparison Peers	49.84 (12.62)	50.44 (13.27)	.11	.74	.03	.87	.32	.58	.001
Social Comparison Models/Celebrities	41.36 (15.33)	46.47 (15.25)	5.67	.02	4.48	.04	4.50	.04	.03

Note:
M = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire, SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire
All analyses for the Eating Attitudes Test (EAT) and its subscales used logarithmically transformed values to correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison. Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

As shown in Table 27, when using only BC participants, and excluding the current high school all-girls students and also the students from the all-girls program at Touro College, there were no significant differences for any of the variables between participants that attended all-girls or coed schools.

Table 27
Influence of Educational Setting on Body Image, Eating Disturbance, Sociocultural Attitudes Towards Appearance, Adherence to the Superwoman Ideal, and Social Comparison (Brooklyn College Students Only)

	All-Girls M (SD)	Coed M (SD)	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 80	n = 94	F	*p*	F	*p*	F	*p*	eta^2
EAT Total	13.38 (16.60)	11.88 (13.02)	.11	.74	.39	.53	.56	.46	.001
EAT Dieting	7.93 (9.56)	7.61 (8.70)	.11	.74	.34	.56	.52	.47	.001
EAT Bulimia	2.70 (5.04)	2.11 (3.50)	.08	.78	.29	.59	.61	.43	.000
EAT Oral Control	2.74 (4.17)	2.17 (2.84)	.57	.45	.71	.40	.58	.45	.003
BSQ Total	84.24 (34.78)	86.79 (33.47)	.24	.62	.12	.72	.05	.83	.001
SATAQ Total	88.19 (24.99)	91.41 (24.92)	.72	.40	.52	.47	.64	.43	.004
SATAQ Internalization	27.83 (8.57)	28.18 (9.58)	.06	.80	.000	.99	.000	.99	.000
Superwoman Ideal	80.21 (13.78)	82.26 (11.08)	1.18	.28	1.05	.31	1.78	.18	.007
Social Comparison Peers	50.97 (13.45)	50.28 (13.05)	.01	.93	.21	.65	.20	.65	.000
Social Comparison Models/Celebrities	43.84 (15.43)	46.36 (15.19)	1.17	.28	.63	.43	.99	.32	.007

Note: *M* = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire, SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire
All analyses for the Eating Attitudes Test (EAT) and its subscales used logarithmically transformed values to correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison. Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

The final set of analyses included all schools, and divided participants within each school by gender composition of high school attended. However, as only a small number of participants from Touro college (n = 3) attended a coed high school, this group was excluded from the analyses, such that comparisons were made between four groups; BC students who attended an all-girls high school, BC students who attended a coed high

school, current all-girls high schools students, and Touro College students who attended an all-girls high school.

As shown in Table 28, there were significant differences between groups for the SATAQ internalization subscale, $F(3,281) = 3.50$, $p = .02$, $\eta^2 = .04$, the Superwoman Ideal, $F(3,281) = 3.29$, $p = .02$, $\eta^2 = .03$, and comparison to models and celebrities, $F(3,281) = 4.12$, $p = .01$, $\eta^2 = .04$. When adjusting for demographic variables with ANOVA model 2, all results remained significant. When also adjusting for mood variables with ANCOVA model 3, the results for the Superwoman Ideal, and comparison to models and celebrities remained significant, and the results for SATAQ internalization subscale were no longer significant. The SATAQ total was marginally significant with ANOVA model 1, $F(3,281) = 2.62$, $p = .051$, $\eta^2 = .03$, but no longer marginally significant when adjusting for demographic and mood variables with ANCOVA models 2 and 3.

LSD post-hoc comparisons for the SATAQ internalization showed that the Touro College group had significantly lower scores than the BC all-girls group ($p = .01$), the BC coed group ($p = .002$), and the current all-girls high school group ($p = .01$). For the Superwoman Ideal, post-hoc comparisons showed that the Touro College group had significantly lower scores than the BC coed group ($p = .01$). For comparison to models and celebrities, post-hoc comparisons showed that the Touro College group had significantly lower scores than the BC all-girls group ($p = .01$), the BC coed group ($p < .001$), and the current all-girls high school group ($p = .02$).

Table 28
Influence of Educational Setting on Body Image, Eating Disturbance, Sociocultural Attitudes Towards Appearance, Adherence to the Superwoman Ideal, and Social Comparison (All Schools Divided by Gender)

	BC All-Girls	BC Coed	High School All-Girls	Touro All-Girls	ANOVA Model 1		ANCOVA Model 2		ANCOVA Model 3		
Variable	n = 80 M (SD)	n = 94 M (SD)	n = 73 M (SD)	n = 38 M (SD)	F	*p*	F	*p*	F	*p*	eta^2
EAT Total	13.36 (16.60)	11.88 (13.02)	9.50 (12.15)	9.71 (10.31)	.80	.49	.78	.51	.56	.64	.01
EAT Dieting	7.93 (5.04)	7.61 (8.70)	5.74 (7.15)	6.79 (7.26)	.97	.40	.61	.61	.45	.72	.01
EAT Bulimia	2.70 (5.04)	2.11 (3.50)	1.52 (2.97)	1.22 (2.03)	.75	.52	.59	.62	.39	.76	.01
EAT Oral Control	2.74 (4.17)	2.17 (2.84)	2.23 (3.58)	1.71 (3.74)	1.27	.29	1.22	.30	1.01	.39	.01
BSQ Total	84.23 (34.78)	86.78 (33.47)	80.83 (30.73)	79.17 (29.43)	.72	.57	.80	.49	.32	.81	.01
SATAQ	88.19 (24.99)	91.41 (24.92)	89.99 (24.18)	78.37 (25.80)	2.62	.051	2.31	.08	1.33	.27	.03
SATAQ Internalization	27.83 (8.57)	28.18 (9.58)	27.77 (8.81)	22.82 (9.72)	3.50	.02	3.20	.02	2.05	.11	.04
Superwoman Ideal	80.21 (13.78)	82.25 (11.07)	78.15 (12.25)	75.60 (12.26)	3.29	.02	3.46	.02	2.73	.04	.03
Comparison-Peers	50.72 (13.37)	50.54 (13.23)	51.74 (14.29)	48.00 (10.83)	.67	.57	.52	.67	.35	.79	.01
Comparison-Celebrities	43.84 (15.43)	46.36 (15.19)	43.49 (15.11)	36.14 (13.89)	4.12	.01	4.23	.01	3.07	.03	.04

Note: *M* = mean, *SD* = standard deviation, EAT = Eating Attitudes Test, BSQ = Body Shape Questionnaire, SATAQ = Sociocultural Attitudes Towards Appearance Questionnaire

All analyses for the Eating Attitudes Test (EAT) and its subscales used logarithmically transformed values to correct for skewness. Non-transformed mean and standard deviation values are presented for ease of comparison. Variables used as covariates for model 2 were: age, body mass index (BMI), and level of observance (orthodox Jewish vs. non-orthodox Jewish). Variables used as covariates for model 3 were: age, body mass index (BMI), level of observance, depression, and trait anxiety.

Discussion

The purpose of this study was to explore the roles of religious orientation, spiritual well-being, social comparison, and educational setting on the development of body image and eating disturbance among young Jewish women. Our sample consisted of 301 adolescent and young adult Jewish women recruited from two colleges and one Yeshiva high school in the New York City area. Previous research measuring the influence of religion on eating disturbance among Jewish women has used self-reported religious observance as a measure of religiosity and has yielded inconsistent results (Gluck & Geliebter, 2002; Latzer et al, in press). Studies that have used religious orientation as a measure of religious influence have tended to exclude Jewish women (Forthun et al, 2003; Smith et al., 2004). Therefore, a primary goal was to extend the paradigm of religious orientation, as a predictor of body image and eating disturbance, to include Jewish women. A related goal was to explore the role that spirituality, which has rarely been examined as a distinct construct from religion, may play in the development of EDs. This study also sought to elucidate the mechanisms by which religious orientation influences ED development, a question left unanswered by previous studies, by exploring sociocultural variables that may mediate this relationship.

Variables of interest were explored within the context of Bronfenbrenner's Model of Ecological Development (Bronfenbrenner, 1977), which views development as occurring through continuous interaction with one's immediate and more remote environmental influences. The primary variable, religious orientation, was categorized as part of an individual's macrosystem, a domain that sets standards for behaviors or values within one's life. While the individual is not actively part of the macrosystem, he or she

may be strongly affected by its existence. We measured religious orientation using the Religious Orientation Scale (ROS), which distinguishes between intrinsic and extrinsic religious orientations. Intrinsically oriented individuals tend to internalize and live their religious beliefs, while extrinsically oriented individuals tend to engage in religious activities because of the social rewards or motivators associated with these activities. Individuals classified as pro-religious endorse intrinsic and extrinsic items, and those classified as anti-religious tend to disagree with items from both domains. We assessed spirituality using the Spiritual Well-Being Scale (SWB), which distinguishes between different types of spirituality as being related to or distinct from religious practice.

The next sphere of influence within Bronfenbrenner's model is the exosystem, an external structure that exerts influence on an individual's immediate experiences. Within this domain, we explored the influences of social comparison to media images on body dissatisfaction and disordered eating because of the media's role in shaping the beauty ideals adhered to by many adolescents and young adult women. We used the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ) to measure the extent to which participants rely on and internalize media images as a source of information about standards of beauty. We also measured the frequency with which participants engage in social comparison to models and celebrities.

Finally, within the arena of the microsystem, the structure within which the individual plays an interactive and reciprocal role, we examined the influences of peer comparisons and educational setting. Social comparison among peers serves as a barometer of an individual's standing within his or her social group and can be as important psychologically as comparisons made to models or celebrities. We also

examined differences in body dissatisfaction and eating disturbance, between attendees of all-girls and coed schools as there is limited evidence to suggest that all-girls schools may foster more negative body image than coed settings (Dyer & Tiggemann, 1996; Mensinger, 2001, 2003). Using a revised version of the Superwoman Scale, we investigated whether there were differences in the extent to which students in coed versus all-girls schools adhere to the Superwoman Ideal, the idea that one must be successful in personal, professional, and academic areas in order to feel fulfilled.

Overall, study results confirmed our hypotheses and revealed that religious orientation had a strong influence on body dissatisfaction and eating disturbance as well as on other sociocultural variables that serve as predictors of eating disturbance. Participants with an intrinsic religious orientation had consistently lower scores (indicating less pathology) on measures of body dissatisfaction, eating disturbance, thin-ideal internalization, adherence to the Superwoman Ideal, and measures of social comparison than participants with an extrinsic, pro-religious, or anti-religious orientation. There was a moderate relationship between spiritual well-being and body dissatisfaction and eating disturbance but greater influence of spiritual well-being on other sociocultural measures. We determined that sociocultural attitudes towards appearance and adherence to the Superwoman Ideal acted as mediators of the relationship observed between religious orientation and eating disorder symptomatology, elucidating possible mechanisms for how an intrinsic orientation is protective. Finally, we found that educational setting did not affect scores of body dissatisfaction or eating disturbance. Participants who attended all-girls schools, however, had higher levels of adherence to the Superwoman Ideal and thin-ideal internalization as compared their coed counterparts.

We will now examine each set of study findings on its own with attention to possible implications for applied settings and future research.

Religious Orientation and ED Symptoms

Consistent with our first hypothesis, participants categorized as having an intrinsic religious orientation as measured by the ROS, had lower scores on both the EAT (and its subscales) and the BSQ than participants categorized as extrinsic, pro-religious, and anti-religious. These findings remained significant after controlling for age, BMI, observance level, depression, and anxiety -- and were consistent with results from previous studies, which did not include Jewish women (Forthun, 2003; Smith et al, 2004). It appears that internalizing one's religious beliefs is protective against the development of body image and eating disturbance as compared to having an extrinsic attitude. Extrinsically oriented individuals often focus on the social or external rewards that religious practice can provide and may be more outwardly focused on physical appearance. It is noteworthy that with the exception of the Oral Control subscale of the EAT, the extrinsic and pro-religious groups did not differ significantly from each other. Participants categorized as pro-religious endorsed both intrinsic and extrinsic items and scored similarly to those with an extrinsic orientation, suggesting that the deleterious effects of an extrinsic orientation outweigh the protective effects of an intrinsic one. Interestingly, while the intrinsic group had the lowest scores on all EAT subscales and the BSQ, this group was often not significantly different from the anti-religious group, who tended to disagree with both intrinsic and extrinsic items. This suggests that perhaps as long as one does not actually endorse and extrinsic orientation, this too is protective against body image and eating disturbance.

Further insight into these findings can be gained by considering a recent study, which reported that having an extrinsic religious orientation was positively associated with intake of fruits, vegetables, and low fat foods (Hart, Tinker, Bowen, Satia-Abouta, & McLerran, 2004). According to Hart et al. this finding came as surprise to the study authors, who had expected that intrinsically oriented individuals (who would follow the religious teachings of taking care of one's body) would be more likely to eat healthy foods. Our findings may shed light on the tendency for extrinsically oriented individuals to be more concerned with their physical health and outward appearance as compared to those with an intrinsic orientation. While many religions stress the importance of protecting one's body (as it is the vehicle for carrying out religious obligations), a principle often given greater credence is the idea that the physical world and one's physical needs should be secondary to spiritual endeavors. It is therefore possible that intrinsically religious participants in the current study viewed an over-concern with physical needs and appearance as being trivial, and at odds with religious doctrine. It follows that extrinsically oriented individuals (who do not share these values) may have a tendency to be more focused on the physical and consequently more likely to become dissatisfied with appearance.

Studies of Jewish women that have found that an increased level of observance or Orthodoxy is associated with lower levels of body dissatisfaction and eating disorders, have attributed religion's emphasis on the spiritual (as opposed to the physical) as the basis for this difference (Gluck & Geliebter, 2002; Latzer in press). Gluck and Geliebter (2002) write that among Orthodox Jewish women, there is little emphasis on being thin and being successful outside the home, which may confer protection against body

dissatisfaction. Furthermore, they argue that the rigidity of an Orthodox lifestyle, which includes observing the Sabbath and dietary laws of Kashrut (Ganzfried, 1864/1961), may provide a feeling of control for constituents, eliminating the need to use the body as a vehicle of control. While this may be true to some extent, it is likely an oversimplification of the values of Orthodox Judaism. Among this population, exploration of religious orientation rather than observance appears to enhance understanding of the role that religion plays in ED development.

An issue not considered in the above-mentioned studies of Orthodox Jewish women and body image is the extreme pressure within this community to enter into a socially desirable marriage at an early age (Altmann, 2007; Baruchin, 1998; Dancyger, Fornari, & Fisher, 2002; Goldwasser, 2000). Even among segments of this population with limited exposure to media, ideas about what constitutes a suitable bride closely resemble unattainable beauty ideals portrayed in the mainstream media. In fact, some have observed that over the last decade, the acceptable weight for Orthodox women of marriageable age has become thinner and thinner, while beauty ideals have become more rigid (Altmann, 2007; Dancyger, Fornari, & Fisher, 2002). Orthodox Jewish women not only are expected to conform to rigid appearance standards, but they also are expected to do so within the boundaries of *Tzniut*, or modesty laws. Briefly, these laws prohibit women and girls over 12 years of age from exposing any skin above the elbows or knees or below the collarbone (Falk, 1998), and many women also cover the lower legs with stockings. While the essence of these laws is about modesty and self-respect, they often are rigidly enforced and may be misinterpreted by adolescent and young women. For example, they may serve to induce shame about one's body or sexuality. Furthermore, for

many Orthodox girls, formal dating for marriage is the first real interaction with boys, and all physical and sexual contact is prohibited until after marriage (Ganzfried, 1864/1961). Contrary to Gluck and Geliebter's assertion that this rigid lifestyle provides a sense of control, many young women have reported feeling extremely "out of control" as a result of Orthodox Jewish tenets; these women may use their bodies in unhealthy ways (e.g., food restriction or binding) as a way to express uncomfortable or shameful feelings (Altmann, 2006; Baruchin, 1998l; Rabbi A. Lieberman – personal communication, 2007).

In the context of the values and standards reported above, Orthodox Jewish women may feel even more pressure than their secular counterparts to conform to a thin-ideal. This is where the distinction between an intrinsic and extrinsic orientation becomes crucial and is more useful than the simple distinction between observant versus non-observant or Orthodox versus non-Orthodox. As suggested by our study findings, participants with an extrinsic orientation towards religion, who are concerned primarily with its social aspects, may be more outwardly focused on physical appearance, especially as it relates to community pressures. By contrast, intrinsically oriented individuals may be better able to distinguish societal pressures from religious values. These women may in fact be the ones who are protected by Orthodox Judaism's values, whereas women with an extrinsic orientation may be more vulnerable to body dissatisfaction and eating disturbance. In this regard, religious orientation is a more appropriate paradigm for measuring religious attitudes among secular and observant women alike. It is possible that the element of increased religiosity that appears

protective in previous studies is actually intrinsic religiosity, as observed in the current study, rather than mere observance.

Spiritual Well-Being and ED Symptoms

An important study goal was to examine the influence of spirituality on eating disturbance as a distinct construct from religion. Spirituality may or may not be related to religious practice, as many individuals report being spiritual but not religious and vice versa (Miller & Thoreson, 2003). The majority of research related to religion and health has used the terms "religion" and "spirituality" interchangeably and has failed to address the possibility that, as separate constructs, they may have differing degrees of influence on health outcomes including body image and eating disturbance. The Spiritual Well-Being Scale (SWB), which was used to measure spirituality in the current study, includes the subscales of religious and existential well-being (RWB and EWB). Religious well-being refers specifically to one's relationship with God and religious practice, whereas existential well-being refers to welfare independent of God or religion, and includes feelings of fulfillment and purpose in life. The two subscales can be combined to obtain a total SWB score.

Results indicated that for the BSQ, participants who scored high on total SWB and EWB had significantly lower scores than those with moderate SWB and EWB, suggesting that higher levels of spiritual well-being are protective against body dissatisfaction. These findings remained significant when controlling for demographic variables but were no longer significant after controlling for mood variables. There were no differences on the EAT or its subscales and no differences on any measure for RWB.

These findings highlight several important issues. First, a possible explanation for the finding of group differences on the BSQ but not the EAT, relates to the fact that the BSQ measures overall body dissatisfaction whereas the EAT measures actual disordered eating. It is likely that many of our participants exhibited body dissatisfaction without having progressed to disordered eating behaviors. One might consider the BSQ a more cognitive measure of risk factors for EDs because it measures thoughts and self-perceptions, which likely become distorted prior to the development of disordered eating behaviors (Keel et al., 2007). As such, individuals are likely to have elevated scores on measures of body dissatisfaction prior to having elevated scores on measures of eating disturbance/ Therefore, in our non-clinical sample, one may expect to find greater variation in scores on the BSQ than on the EAT.

Second, statistically significant outcomes on measures of body dissatisfaction between those with moderate and high SWB and EWB disappeared after controlling for depression and anxiety. This is likely due to the nature of the Spiritual Well-Being scale. Because the scale measures spiritual *well-being*, and not spirituality *per se*, it is likely that scores are related to mood variables such as anxiety and depression. Because individuals with high scores on measures of body dissatisfaction are also likely to have high scores on tests of anxiety and depression (Keel et al 2007; Walsh & Devlin, 1998), group differences may disappear after controlling for these variables. Overall, these findings suggest that the Spiritual Well-Being scale may not be the most useful measure of spirituality when conducting psychological research or when utilizing participant groups for which (even subclinical levels of) psychopathology might be present.

Lastly, there was no observed influence of RWB. One could argue that RWB, as assessed via the Spiritual Well-Being scale, is not a true measure of spirituality but rather a measure of how one perceives his or her relationship with God. When arguing that spirituality should be considered as distinct from religion, it follows that EWB is of greater interest than RWB because RWB may be more related to religiosity or observance than to spirituality. If this were the case, then one would expect RWB to be of little value in predicting eating disturbance, given our other findings (described above), which highlighted the limitations of using observance alone as a predictor of disordered eating. Thus, it makes sense that these results revealed significant differences only for total SWB and EWB and only for the BSQ-- and researchers should bear in mind this potential limitation when designing future studies dealing with spirituality.

Combined Influence of Religious Orientation and Spiritual Well-Being

After observing the individual influences of religious orientation and spiritual well-being on body dissatisfaction and eating disturbance, we next investigated whether the extent to which spiritual well-being influences ED symptoms varies with different types of religious orientation. SWB, RWB, and EWB were examined at each level of religious orientation such that EAT and BSQ scores were considered for each religious orientation group and each type of well-being. Significant differences emerged for the EAT and BSQ for some of the analyses for SWB, RWB, and EWB, but were only seen within the intrinsic and extrinsic groups.

For total SWB, participants categorized as extrinsically religious with high SWB, had significantly lower scores than those with moderate SWB for the BSQ, and approached EAT total, and for the oral control subscale of the EAT. For EWB,

extrinsically oriented individuals with high EWB had significantly lower scores than those with moderate EWB for the EAT total, and the oral control subscale of the EAT. Among intrinsically oriented individuals, those with high EWB had significantly lower scores than those with moderate EWB for the BSQ.

When spiritual well-being was examined individually for each type of religious orientation, significant differences emerged on the EAT for SWB, and EWB, a finding not observed when using the total sample. These differences occurred exclusively among participants categorized as extrinsically religious. It therefore appears that level of SWB exerts a greater influence if one is extrinsically oriented than if one has a different type of religious orientation. Earlier findings from this study showed that extrinsically oriented individuals had the highest scores on all measures of body dissatisfaction and eating disturbance, which may account for why differences are seen here for EAT, but not when examining the total sample. It appears, however, that among extrinsically orientated individuals, having higher levels of SWB, and EWB confers a moderate amount of protection from vulnerability to eating disturbance. Perhaps for extrinsic individuals, higher levels of well-being are protective against the deleterious influences of an external focus towards religious beliefs. As one would expect, among the extrinsic group, only a handful of individuals scored high on levels of SWB, and EWB. These individuals, however, scored significantly lower on measures of eating disturbance than those with moderate levels of well-being, suggesting that with more statistical power we might observe a significant interaction between religious orientation and measures of spiritual well-being. This represents a goal for future research.

Among the intrinsic group, we observed significant differences only for EWB and the BSQ. Intrinsically oriented individuals had lower levels of body dissatisfaction and eating disturbance than any other religious orientation group, which likely accounts for why differences were seen only among the BSQ, which measures body dissatisfaction, and not among the EAT, which measures actual disordered eating. Furthermore, because this group already may be protected from ED symptoms, it appears that EWB is the only element of spirituality measured in this study that confers additional protection on those with an intrinsic orientation. One would expect intrinsic individuals to have high levels of RWB, but perhaps having high levels of EWB, which reflects how individuals feel about their existence or purpose, confers additional psychological protection against EDs.

Religious Orientation and Other Sociocultural Variables: SATAQ, the Superwoman Ideal and Social Comparison

As expected, sociocultural attitudes towards appearance, thin-ideal internalization, adherence to the Superwoman Ideal, and social comparison to peers and models were positively correlated with measures of body dissatisfaction and eating disturbance. Once these relationships were observed, we examined whether these variables (which previously have been shown to be related to higher levels of ED symptoms (Halliwell & Dittmar, 2004; Jones, 2001; 2004; Mensinger, 2001, 2003; Thompson et al., 1999; Thompson & Stice, 2001)), were influenced by religious orientation. Also consistent with our hypothesis, participants categorized as intrinsically religious had significantly lower scores on the SATAQ and its thin-ideal internalization subscale, adherence to the Superwoman Ideal, and social comparisons to peers and models/celebrities, than any

other religious orientation group. This relationship remained significant after controlling for demographic and mood variables.

These findings suggest that an intrinsic orientation somewhat attenuates the effects of the endorsement and internalization of media images (and the resulting comparisons to them) and adherence to the Superwoman Ideal; this is similar to what was seen with the BSQ and EAT. Because these sociocultural variables may be precursors to body image and eating disturbance, it follows that individuals scoring low on these measures also should exhibit fewer signs of body dissatisfaction and disordered eating.

For the SATAQ, the internalization subscale of the SATAQ, the Superwoman Ideal, and social comparisons to models and celebrities, intrinsically oriented individuals had significantly lower scores than the extrinsic, pro-religious, and anti-religious groups. As with the BSQ and EAT, scores between the extrinsic and pro-religious groups were not significantly different from each other but unlike with the BSQ, scores between the intrinsic and anti-religious groups were significantly different. This suggests that having an intrinsic orientation prevents one from internalizing media ideals including the notion that not adhering to these ideals decreases one's value. As seen with the BSQ and EAT, having an extrinsic orientation towards religion may make women more susceptible to images or messages that dictate how they should behave in order to be accepted. The extent to which the internalization of media ideals and adherence to the Superwoman Ideal translates into scores of body dissatisfaction and eating disturbance will be discussed in the upcoming section that explores mediators of the relationship between religious orientation and ED symptoms.

Spiritual Well-Being, Sociocultural Attitudes Towards Appearance, The Superwoman Ideal, and Social Comparison

We explored the influence of spiritual well-being on the sociocultural variables of spiritual well-being, attitudes towards appearance, Superwoman Ideal, and social comparison. Consistent with our hypothesis, participants with high levels of SWB and RWB had lower scores on the SATAQ and internalization subscale, the Superwoman Ideal, and social comparison to models/celebrities than those with moderate SWB and RWB. As compared to those with moderate EWB, participants with high levels of EWB had lower scores on the SATAQ and its internalization subscale, the Superwoman Ideal, and social comparisons to peers as well as to models/celebrities. All findings remained statistically significant after controlling for demographic variables. However, after controlling for depression and anxiety, for SWB only the results for the SATAQ and the internalization subscale remained significant, and for the EWB, these variables only approached significance. Interestingly, for RWB, which was not useful in predicting scores on the EAT or BSQ, all findings remained significant when controlling for both demographic and mood variables.

It appears that SWB has more influence on these sociocultural variables (which are correlated with body dissatisfaction and disordered eating) than on ED symptoms directly. It is therefore possible that sociocultural variables such as internalization of media ideals, adherence to the Superwoman Ideal, and social comparison processes are more related to general feelings of self-worth and well-being than are actual measures of ED symptoms, which may represent the presence of more complex psychological processes. We plan to explore this possibility in more depth in future research.

It is noteworthy that not only was there an influence of RWB on sociocultural variables, which was not seen with the EAT and BSQ, but that these results remained significant after controlling for depression and anxiety. It is possible that RWB, which measures attitudes about one's relationship with God or religion, attenuates the internalization of media images and adherence to the Superwoman Ideal. Earlier, we suggested that RWB may be more closely related to observance level than to spirituality. If this is the case, then observance level or feelings about one's relationship with God, may explain the differences observed among attitudes towards appearance, adherence to the Superwoman Ideal. and social comparisons for RWB.

While observance alone is limited in its ability to predict degree of body image and eating disturbance, it may be related to more limited media exposure and adherence to traditional values, which in turn may influence thin-ideal internalization and adherence to the Superwoman Ideal. The Superwoman ideal refers to the idea that one must "have it all" in order to feel self-fulfilled, and adhering to traditional values and gender roles may minimize the pressure to be successful in multiple arenas. Ideas about being successful in multiple roles, many of which come from the media, may be more limited or easily discounted within observant domains. In this regard, the notion that a more controlled Orthodox lifestyle may be psychologically beneficial (Gluck & Geliebter), may be true to a certain extent, although, as observed above, this does not necessarily translate into lower scores of body dissatisfaction and eating disturbance.

Mediators of the Relation Between Religious Orientation and ED Symptoms

These results showed that individuals with an intrinsic orientation have the lowest scores on measures of body dissatisfaction and eating disturbance when compared to

other religious orientations. Previous research has failed to address the mechanisms underlying the observed influence of religious orientation on ED symptomatology (Forthun et al, 2003; Smith et al, 2004). As mentioned above, there are characteristics inherent to an extrinsic religious orientation that may predispose women to body dissatisfaction and eating disturbance. Conversely, there are characteristics inherent to an intrinsic orientation that appear protective. As well, additional variables or processes may be associated with the different types of orientations that generate the protective effects of an intrinsic orientation and the deleterious effects of and extrinsic one. We sought to elucidate the observed relationship between religious orientation and ED symptoms by testing whether this relationship was mediated by sociocultural attitudes towards appearance (as measured by the SATAQ) and adherence to the Superwoman Ideal. Scores on the SATAQ and thin-ideal internalization, as well as adherence to the Superwoman Ideal, have been correlated with ED symptoms in previous studies (Mensinger, 2001; 2005; Thompson et al., 1999; Thompson & Stice, 2001), and we further established a link between religious orientation and these variables. Due to these connections, it is plausible that examining the SATAQ and adherence to the Superwoman Ideal as mediating variables may lead to a more complete explanation of how religious orientation influences scores on the EAT and BSQ.

Consistent with our hypothesis, both the SATAQ and the Superwoman Ideal partially mediated the relationship between religious orientation and the EAT and BSQ. When including the SATAQ and Superwoman as mediators, the influence of religious orientation remained, but was attenuated and decreased in magnitude. This suggests that in addition to the basic differences between an intrinsic and extrinsic orientation, the

lower levels of reliance on and internalization of media ideals, as well as adherence to the Superwoman Ideal seen among intrinsic individuals, are partially responsible for the differences seen in EAT and BSQ scores.

The largest impact of mediation was seen with the SATAQ for the BSQ, followed by the EAT. Endorsement and internalization of media ideals (measured by the SATAQ), is known to impact body dissatisfaction and eating disturbance (Thompson et al., 1999; Thompson & Stice, 2001). Results of our mediation analyses indicated that to a certain extent, the processes measured by the SATAQ also facilitate the differences seen for religious orientation. This suggests that one reason that intrinsically oriented individuals have fewer ED symptoms, is because they are influenced less by media messages. Because extrinsically oriented individuals are more concerned with outward appearance both socially and religiously, they are more vulnerable to the internalization of media images and therefore more likely to experience body dissatisfaction and eating disturbance because of these images. To a certain extent, this finding can be explained in terms of observance level, as more fervently Orthodox individuals are likely to have limited media exposure. Because standards of attractiveness are narrow within the Orthodox Jewish community and often conform to those of media images (Altmann, 2006; Goldwasser, 2000), however, it is unlikely that differences in media exposure alone are responsible for the observed findings. Furthermore, because many of our participants who were categorized as intrinsic are also non-observant (and are fully exposed to media messages), limited media exposure is not a sufficient explanation for the observed differences in SATAQ scores. It is more likely that intrinsically oriented individuals tend to rely on personal beliefs and values and are simply less vulnerable to media or

community pressures, which translates into lower levels of thin-ideal internalization and ED symptomatology.

Similar results were seen with the Superwoman Ideal, which also mediated the relationship between religious orientation and the EAT and BSQ, but to a lesser extent than the SATAQ. The influence of the Superwoman Ideal also may be explained in terms of religious observance, as many Orthodox women are likely to endorse more traditional gender roles and thus may experience less gender role conflict. Because many Orthodox women do work outside the home, however, and because many intrinsic participants were non-observant, it is unlikely that observance alone can explain the observed differences. Similarly to the SATAQ, it appears that having an intrinsic orientation can protect an individual from succumbing to societal messages mandating that women "have it all" in order to be considered successful.

Educational Setting, ED Symptoms, and Sociocultural Influences

We examined the influences of educational setting on ED symptoms. Previous studies found higher levels of body dissatisfaction and eating disturbance among women who attended all-girls high schools as compared to those who attended coed institutions (Dyer, & Tiggemann, 1996; Mensinger, 2001, 2003). This may be a result of greater gender role conflict experienced by girls in single-gender schools, which tend to place high importance on academic excellence as well as on the traditional roles of wife and mother (Lee, & Marks, 1992; Mensinger, 2001, 2003). In the current study, however, we hypothesized the opposite pattern – that we would find higher levels of body dissatisfaction and eating disturbance among participants who attended coed schools. Among Orthodox Jewish high schools ("Yeshivas"), those that are single-gender tend to

emphasize values that are more traditional and focus on the importance of family life. Coed Yeshivas, by contrast, tend to be more modern in their orientation and usually emphasize academic excellence as well as traditional Jewish values (Rabbi A. Lieberman – personal communication, 2007), thereby creating more gender role conflict and adherence to the Superwoman Ideal than single-gender schools.

Researchers also have proposed that coed schools may help prevent body dissatisfaction because the presence of boys serves as a "reality check" for girls highlighting the discrepancy between what the media dictates as attractive and what men actually find attractive (Dyer, & Tiggemann, 1996). However, because of the pressure to marry young and the rigid beauty standards often associated with this ideal (Altmann, 2006; Baruchin, 1998; Dancyger, Fornari, & Fisher, 2002; Goldwasser, 2000), we hypothesized that Orthodox girls would be more vulnerable to body dissatisfaction and disordered eating as a result of attending coed schools.

Consistent with our hypothesis, when examining the total sample, participants who attended a coed high school had significantly higher levels of adherence to the Superwoman Ideal and social comparisons to models/celebrities than participants who attended all-girls high schools. These differences remained significant when adjusting for relevant demographic and mood variables. There were no group differences seen on measures of ED symptoms (EAT and BSQ), sociocultural attitudes towards appearance (on the SATAQ), or social comparison to peers.

After examining the total sample, current high school students were excluded and educational setting differences analyzed among college students only. The same pattern emerged, where participants who attended coed schools had higher levels of adherence to

the Superwoman Ideal and social comparison to models/celebrities. When the same analyses were conducted for BC students only (excluding high school and Touro College participants), we found no significant differences.

A final set of analyses included all schools, and divided participants within each school by the gender composition of high school attended. A small number of Touro College students (n = 3) reported attending a coed high school and therefore were not included in this analysis. Significant differences were seen for the Superwoman Ideal and comparison to models/celebrities, where Touro College participants had significantly lower scores than current high school students and BC students. These results remained significant after adjusting for demographic and mood variables. Touro College students also had the lowest scores for the SATAQ internalization subscale, but these results were no longer significant after adjusting for depression and anxiety.

Several interesting findings emerged from the analyses described above, which require further investigation and clarification. Overall, participants who attended a coed high school had higher levels of adherence to the Superwoman Ideal and social comparison to model/celebrities. This is consistent with our hypothesis that within our sample of primarily Orthodox young women, coed schools would foster greater gender role conflict. These differing ideals, however, did not translate into actual behavioral differences on measures of body dissatisfaction and eating disturbance. When examining BC students only, there were no longer any significant differences observed for these variables. Finally, when including all schools based on the gender composition of high schools attended by participants, the Touro College participants had significantly lower

scores on the Superwoman Ideal and comparison to models/celebrities than all other single-gender or coed groups.

A question arises as to whether there is something inherent to specific schools, or the religious differences associated with them, that give rise to variable levels of adherence to social ideals? To answer this question, one must consider the institutions utilized in the current study. There are several possible explanations for the finding that Touro College participants had significantly lower scores on the Superwoman Ideal and social comparison to models/celebrities. The division of Touro College from which this sample was selected, is a religious, single-gender environment that represents a very distinct demographic of women. A majority of Touro students identify as fervently Orthodox and as reported by study participants, value a college degree but prefer to remain in an all-girls environment similar to a Yeshiva. Many of these Touro students come from Orthodox homes where media exposure is limited, and marrying young is emphasized. Additionally, while Touro students view a college education as a means of finding employment, according to many participants, their primary focus is on becoming a wife and mother. Therefore, level of adherence to the Superwoman Ideal is low because careers are considered secondary to family life.

Our hypothesis of higher levels of adherence to the Superwoman Ideal and social comparison to model/celebrities in those who attended coed high schools was supported in the total sample (but not for the BC students alone). BC is a coed public university with a heterogeneous student body. It is possible that among BC students who attended all-girls high schools, the influence of being in a coed environment had rendered their level of gender role conflict and adherence to the Superwoman Ideal indistinguishable

from BC students who attended a coed high school. In other words, by the time participants engaged in this study, the benefits of having attending a single-gender high school may have disappeared. Among the total sample, however, a substantial number of participants currently were enrolled in all-girls schools – and this may account for the initial findings.

It is important to note that none of the observed group differences included measures of ED symptoms, suggesting that educational setting may influence certain risk factors for EDs but not actual body dissatisfaction or eating disturbance. It is more likely that the religious orientation of participants within schools influenced scores on the EAT and BSQ. In order to fully understand the relationship between educational setting and ED symptoms, the sample should have included more participants from Touro College as well as other Yeshiva high schools in the area. Thus, the current interpretation of the role of educational setting is limited because the majority of study participants came from BC and participants were not evenly distributed across educational institutions.

Study Limitations and Additional Future Directions

While many of our hypotheses were supported, this study had several limitations that warrant consideration. The study initially was designed to include only Yeshiva high school students from both coed and single-gender schools. Due to the reluctance of numerous high school administrators to permit access to their students, we redesigned the study to include college students in addition to high school students. We asked the college participants to report the gender composition of their high schools, retrospectively. While there were benefits to this expanded demographic (e.g., the ability to sample non-observant in addition to observant women), certain limitations become

apparent. For example, while we were still able to compare various educational settings, the results and interpretations were limited by the variability in school environments and unequal distribution of participants among them. The largest percentage of participants were drawn from BC, a public university, while the remaining participants came from an all-girls high school and college. In order to gain a better understanding of the influence of educational setting using the demographic of the current sample, future studies should include a larger number of participants from Touro College (and similar institutions) and a greater number of women who attended coed Yeshiva high schools.

Another limitation emerged when examining the results for the Spiritual Well-Being Scale. When looking at the influence of SWB on body dissatisfaction and eating disturbance, significant results disappeared after controlling for depression and anxiety, suggesting that the scale is measuring a construct closely related to these mood variables. While the Spiritual Well-Being Scale did yield more consistent results for the SATAQ, the Superwoman Ideal, and social comparisons, it is likely that it is not the best measure of spirituality to use when working with participants for whom (even subtle) mood issues are present. Because it appears that the subscale of EWB most closely resembles the construct of spirituality as being distinct from religious practice, a possible option is to utilize this subscale exclusively in future studies. In order to understand fully whether spirituality (as a separate construct from religion) influences ED symptomatology, however, additional spirituality measures should be utilized and/or developed.

In future studies, we will collect additional information about study participants. For example, we will include an item related to participants' marital status. Given the emphasis placed on marrying at a young age within the Orthodox community and the

demands associated with it, a comparison of married versus non-married participants might yield interesting and useful findings. As well, it may be useful to include measures of personality, such as extraversion and neuroticism. Because these variables are associated with a variety of health outcomes (Taylor, 2005), they may inform and/or impact both religious orientation and attitudes towards one's body.

Another future goal is to examine whether the paradigm of religious orientation extends to other religious and cultural groups. Results of this study are similar to those seen in previous research with a predominantly Mormon sample (Smith et al, 2004). If studies conducted among different religious groups and denominations continue to show that having an intrinsic orientation acts as a buffer for the development of ED symptoms, then religious orientation may emerge as an effective tool for measuring the influence of religion in ED development. Additionally, studies using religious orientation should be expanded to include boys and young men, whose rates of body image and eating disturbance have been steadily increasing (Hudson et al, 2007). Thus, religious orientation can be added to the general repertoire of research tools available to elucidate the etiology of EDs.

Study Implications

The rationale underlying the quest for a deeper understanding of ED development is to enable the successful design and implementation of interventions aimed at vulnerable populations. While members of the Orthodox Jewish community may be resistant to discussing matters related to psychiatric illness (Altmann, 2006, Baruchin, 1998), it is nevertheless imperative to disseminate information that has the potential to protect young women from developing EDs. Over the last several years, some Yeshivas

and Jewish day schools have begun to provide workshops and seminars aimed at prevention and early detection of eating disturbance (Baruchin, 1998), and incorporating information related to intrinsic and extrinsic orientations would add to these efforts. As well, parents and school administrations should be encouraged to engage in open dialogue about the messages that are being transmitted to young women regarding what determines self worth. Arguably, the importance of marriage and children, which are at the core of Jewish values, can be emphasized in a way that does not detract from women's inherent value. Furthermore, community and educational efforts may be initiated to expand the image of what constitutes a "suitable bride." This could involve educational programs aimed at young women and men that reinforce healthy and realistic beauty ideals. Ideally, school counselors and psychologists (who are knowledgeable about these and related study findings) would be involved in all of the endeavors described above.

Study findings also may be used to inform treatment. For example, an awareness of different religious orientations and their implications would be beneficial to clinicians working with patients who manifest eating disorders and body image disturbances. It may even be possible to design therapeutic and/or experimental interventions that challenge existing attitudes and encourage an intrinsic religious orientation. If successful, such efforts might exert a positive effect not only on body image and eating disturbance but on other mental health outcomes as well.

In conclusion, study findings encourage researchers to focus on the broader implications of a religious orientation paradigm. Studies investigating the impact of religion on health have yielded inconsistent results, and findings that relate religious

observance to better overall health and faster recovery from illness have not been substantiated (Miller & Thoreson, 2003). These inconsistencies are illustrated by two recent studies: Gillum (2006) reported that frequent attendance at religious services was associated with higher rates of obesity (a known risk factor for mortality), whereas Litwin (2007) reported that frequent synagogue attendance was related to lower mortality rates among elderly Israelis. A drawback of extant research is that the variables used to measure religiosity and religious beliefs have been simplistic. Merely using self-reported attendance at religious services or observance level is of little use in evaluating religion's connection with health. Without a sophisticated understanding of how individuals incorporate religious beliefs into their lives and what motivates them to do so, religion's true impact on real-world outcomes may be overlooked. It is hoped that the current study can serve as a starting point for such efforts.

This study showed that having an intrinsic religious orientation is related to lower scores on measures of body dissatisfaction and eating disturbance and may confer protection from the internalization of unhealthy media ideals. It is reasonable to assume that the influences of religious orientation may extend to other mental and physical health outcomes. Using religious orientation as a means of understanding individuals' true religious attitudes can provide a mechanism by which to gain a more comprehensive understanding of how religion affects a variety of mental and physical health outcomes, including depression, happiness, coping, and recovery from illness.

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