

Examining Appearance-Based Rejection Sensitivity During Early Adolescence

Julie C. Bowker, Katelyn K. Thomas, Sarah V. Spencer, and Lora E. Park
University at Buffalo, The State University of New York

The present study of 150 adolescents (*M* age = 13.05 years) examined the associations between appearance-based rejection sensitivity (Appearance-RS) and psychological adjustment during early adolescence, and evaluated three types of other-gender peer experiences (other-gender friendship, peer acceptance, and romantic relationships) as moderators. Appearance-RS was found to be uniquely related to two types of social anxiety, but not to self-esteem. Other-gender friendship emerged as a protective factor, whereas high other-gender peer acceptance emerged as a risk factor (especially for boys), after controlling for same-gender mutual best friendship involvement and peer acceptance. Results highlight the importance of distinguishing between different types of other-gender peer experiences during early adolescence and suggest that Appearance-RS during adolescence warrants further investigation.

Rejection sensitivity refers to the tendency to anxiously expect, readily perceive, and overreact to experiences of possible rejection (Downey & Feldman, 1996; Feldman & Downey, 1994). Researchers posit that rejection sensitivity (RS) develops from repeated experiences of rejection by significant others, including parents, peers, and romantic partners (e.g., Downey & Feldman, 1996). Although research on RS is relatively recent, there is considerable evidence that RS during adolescence and young adulthood is a strong personality processing risk factor for a myriad of internalizing difficulties, including depression (e.g., Ayduk, Downey, & Kim, 2001; Harper, Dickson, & Welsh, 2006), low self-esteem (e.g., Ayduk et al., 2000), and social anxiety (e.g., McCarty, Vander, & McCauley, 2007; McDonald, Bowker, Rubin, Laursen, & Duchene, 2010).

Most RS research focuses on the construct of personal-rejection sensitivity (Personal-RS; Downey & Feldman, 1996), which reflects general, anxious expectations of rejection that are not linked to a specific characteristic or attribute. However, theorists have argued recently that based on the nature of real-life rejection experiences, some individuals may develop specific RS biases (e.g.,

London, Downey, Romero-Canyas, Rattan, & Tyson, 2012; Mendoza-Denton, Downey, Purdie, Davis, & Pietrzak, 2002; Park, 2007). For example, membership in a racial or sexual minority group may lead individuals to become sensitive to rejection due to their race (Mendoza-Denton et al., 2002) or sexual orientation (Pachankis, Goldfried, & Ramrattan, 2008). Recently, women have been shown to be especially sensitive to expectations and concerns about rejection based on their gender (London et al., 2012). In addition, some individuals may anxiously expect rejection from others based on their physical appearance, also known as Appearance-based rejection sensitivity (Appearance-RS; Park, 2007; Park & Pinkus, 2009). Importantly, there is emerging evidence that specific types of rejection sensitivities are only moderately correlated with the more general, Personal-RS construct (e.g., *rs* range from .28 to .51; London et al., 2012; Mendoza-Denton et al., 2002; Park & Pinkus, 2009), and are related uniquely to specific experiences of conditional acceptance and adjustment difficulties (e.g., Mendoza-Denton et al., 2002). For instance, Park and colleagues (Park, 2007; Park, DiRaddo, & Calogero, 2009; Park & Pinkus, 2009) found that Appearance-RS was associated with conditional peer acceptance based on appearance and media pressure to be attractive, but not to parental influences, and was associated uniquely with social avoidance of peers, self-perceived physical unattractiveness, and body image concerns, after controlling for Personal-RS and other-related constructs.

The authors would like to thank the students and teachers who participated in the study, as well as Charissa Cheah, Rob Coplan, and Ted Barker for their thoughtful comments on an earlier version of this manuscript. They also extend special thanks to Kathy Graziadei for her support and help in coordinating the study.

Requests for reprints should be sent to Julie C. Bowker, 224 Park Hall, Department of Psychology, University at Buffalo, The State University of New York, Buffalo, NY 14260-4110. E-mail: jcbowker@buffalo.edu

In this study, we examine the unique psychological correlates of Appearance-RS during early adolescence (10–14 years), after accounting for Personal-RS and same-sex peer experiences. Also of interest is whether the degree of psychological risk associated with Appearance-RS during the early adolescent developmental period depends on other-gender peer experiences, such as other-gender peer acceptance. This focus is novel because research on specific rejection sensitivities has been limited by its exclusive focus on samples of college students and young adults (e.g., Mendoza-Denton et al., 2002; Park & Pinkus, 2009). In fact, no researchers, to our knowledge, have considered specific types of RS during early adolescence, which is surprising given that the early adolescent developmental period is when general and specific concerns about same-gender and other-gender rejection and acceptance are the greatest (Rubin, Bukowski, & Parker, 2006). Appearance-RS may be especially important to study during early adolescence because most individuals begin puberty during this developmental period, and consequently, experience heightened concerns about their bodies and the extent to which they are perceived to be physically attractive by same-gender and other-gender peers (Ricciardelli & McCabe, 2001). Importantly, concerns about, and negative perceptions of, one's physical appearance have been found to predict psychological distress during early adolescence (Barker & Bornstein, 2010; Williams & Currie, 2000). Moreover, many adolescents first form other-gender romantic relationships during early adolescence; these relationships are often based initially on physical attractiveness (e.g., Carlson & Rose, 2007). Evidence therefore suggests that young adolescents may be especially sensitive to rejection based on their physical appearance and that appearance-RS may represent a significant risk factor for psychological maladaptation. The present study is the first to consider Appearance-RS and its psychological adjustment correlates among young adolescents.

Concerns about appearance at any age are likely to lead to anxiety in social situations and feeling poorly about oneself. However, it is important to emphasize that high Appearance-RS adults are especially anxious and distressed in situations in which they might be evaluated by their appearance and are highly sensitive to cues of rejection by *other-gender peers* (e.g., Park, 2007; Park & Pinkus, 2009). Thus, it is possible that the adjustment risks associated with Appearance-RS during early adolescence vary according to the degree of involvement

with or social acceptance by other-gender peers. More specifically, successful involvement with other-gender peers may function protectively by diminishing some of appearance-based rejection-sensitive adolescents' worries that they will be rejected based on their appearance, whereas difficulties with other-gender peers may represent a risk factor by confirming their worst fears. This hypothesis is consistent with child x environment models of risk and adaptation that suggest the adjustment difficulties associated with individual risk factors depend on features in the environment (Magnusson & Stattin, 2006). This model has been usefully applied in recent studies to explain findings that anxious-withdrawal is a stronger risk factor for internalizing difficulties for children and young adolescents who experience problematic peer relations than for those who do not (e.g., Gazelle & Ladd, 2003).

Other-gender peer experiences are particularly important to consider during *early* adolescence given that it is the developmental period during which boys and girls first begin to spend considerable time thinking about other-gender peers and romantic issues, when they begin to affiliate in mixed-gender groups, and when other-gender interactions begin to occur in greater frequency (e.g., Connolly, Craig, Goldberg, & Pepler, 2004; Dunphy, 1963). Of particular importance for this study, other-gender interactions appear to lead to the development of other-gender friendships, which become increasingly common, supportive, and influential on adjustment throughout the early adolescent developmental period (Chan & Poulin, 2009; Kuttler, LaGreca, & Prinstein, 1999). Thus, it is possible that having other-gender friends decreases worries about rejection based on appearance, due to the feelings of acceptance and support that come with friendship, which in turn, diminishes some psychological stress associated with Appearance-RS. Involvement in other-gender friendships may also be protective if other-gender friends provide positive feedback about adolescents' appearances.

There is evidence that young adolescent boys and girls believe that if they were more physically attractive, they would be more popular with and well-liked by both boys and girls (Lieberman, Gauvin, Bukowski, & White, 2001), and research indicates that peer-reports of physical attractiveness and other-gender peer acceptance are related during early adolescence (Dijkstra, Cillessen, Lindenberg, & Veenstra, 2009). London, Downey, Bonica, and Paltin (2007) found that peer acceptance by same-gender and other-gender peers predicted decreased

Personal-RS over time. Therefore, similar to other-gender friendships, acceptance by other-gender peers may also decrease the psychological adjustment difficulties associated with Appearance-RS.

Yet, it is important to emphasize that past research has shown that friendships and peer acceptance among *same*-gender friendships are related but distinct types of peer experiences that often have different implications for psychosocial adjustment (Rubin et al., 2006); the same may be true for friendships and peer acceptance among *other*-gender peers. Bukowski, Gauze, Hoza, and Newcomb (1993) found that other-gender peer acceptance was strongly associated with observable prominence in the peer group (assessed by peer nomination items such as "liked by everyone" and "team captain") during early adolescence. Thus, it is also plausible that unlike other-gender friendships, the high prominence associated with other-gender peer acceptance brings increased attention and social visibility, which in turn, increases negative appearance evaluation concerns and anxieties. This interpretation is consistent with evidence that high Appearance-RS individuals are most vulnerable in situations involving *other*-gender peers (Park & Pinkus, 2009), and that negative body image, body dissatisfaction, and other-gender relational self-esteem (as assessed by such items as "I get a lot of attention from other-gender peers") are all related to low self-esteem during early adolescence (Davison & McCabe, 2006; Lieberman et al., 2001).

Finally, given the central role of negative romantic interactions to appearance-based rejection-sensitive adults' insecurities (Park, 2007) and the fact that many young adolescents perceive physical attractiveness and sexual interest and passion to be central to romantic relationships (e.g., Feiring, 1999), the associations between Appearance-RS and psychological difficulties may not be as strong for adolescents with romantic relationships relative to those without romantic relationships because the relationship itself may provide a reassurance of appearance-based acceptance (i.e., nonrejection).

Study Summary and Research Hypotheses

The current study was designed to extend previous work on RS by examining the associations between Appearance-RS and psychological maladjustment and to test whether three types of other-gender peer experiences (other-gender friendships, peer acceptance, and romantic relationships) moderate these associations in an ethnically diverse sample of young adolescent boys and girls. The psychological

variables considered herein were self-esteem and two types of social anxiety (fear of negative evaluation and social avoidance and distress in response to new situations) that have been previously associated with Appearance-RS in studies of young adults (e.g., Park, 2007; Park & Pinkus, 2009).

Because there are no existing measures of Appearance-RS during adolescence, we modified the most commonly used self-report measure of Appearance-RS that was designed for adults (Park, 2007) so that it was developmentally appropriate for use with adolescents. Consistent with prior findings, we predicted that moderate associations between Personal-RS and Appearance-RS, and between Appearance-RS and social anxiety and self-esteem, would be found, providing evidence of convergent validity for the revised self-report Appearance-RS measure. We also sought to determine whether the expected pattern of findings between Appearance-RS and psychological adjustment remained after controlling for Personal-RS and also positive same-gender peer experiences (same-gender mutual best friendship involvement, peer acceptance), which have been previously associated with psychological well-being during adolescence (Bukowski, Sippola, & Hoza, 1999; Rubin et al., 2006). Consistent with past research (Park, 2007; Park & Pinkus, 2009), it was predicted that Appearance-RS would emerge as a significant, unique risk factor of social anxiety.

Given the central importance of rejection cues by other-gender peers to high Appearance-RS adults' psychological difficulties (e.g., Park & Pinkus, 2009), we also investigated whether three types of other-gender peer experiences (other-gender peer acceptance, friendship, and romantic relationship involvement) moderated the associations between Appearance-RS and psychological adjustment. It was expected that all three types of other-gender peer experiences would emerge as moderators. Involvement in other-gender friendships and romantic relationships were expected to emerge as protective factors and to attenuate the associations between Appearance-RS and psychological problems, but no specific hypotheses were offered regarding other-gender peer acceptance.

It is important to note that Park et al. (2009) found that women reported greater Appearance-RS than did men during young adulthood, most likely because women tend to be more appearance-focused than men. Thus, we predicted that the same would be true in the present study because the socialization forces that appear to lead women to be more sensitive to appearance-based rejection during adulthood are likely in place during childhood

and early adolescence. Possible gender differences were examined in the regression analyses in light of evidence suggesting that the qualities and functions of other-gender peer experiences differ for boys and girls (Arndorfer & Stormshak, 2008; Feiring, 1999). However, due to the dearth of research on Appearance-RS during adolescence, no other specific gender differences were hypothesized.

METHOD

Participants

Participants were 150 seventh-grade students (61% girls; M age = 13.05 years, SD = 0.43) from one public middle school in Western New York for whom parent consent and adolescent assent were obtained. The students were recruited for a larger study on peer relationships and psychological adjustment during middle school. All seventh-grade students were recruited for participation; 76% of all potential participants and their parents or guardians agreed to participate. The sample was racially and ethnically diverse with 58% of participants self-identifying as Caucasian, 20% as African-American, 3.6% as Hispanic/Latino, 1.4% as North-East Asian, 0.7% as Native American, and 16.3% as biracial/other. No demographic data were available from those students who did not choose to participate, but available school-wide demographic information indicated that the study sample was similar to the larger school in race and ethnicity, and also gender.

Procedures

During the spring semester, participants completed questionnaires in group-format in their classrooms. Each session lasted approximately 1 hr. Participants were told that their answers were confidential and that they could choose to stop completing their questionnaires at any time. Nonparticipating adolescents remained in their classrooms, working on homework, or other class work. All procedures and measures were approved by the Institutional Review Board at the University at Buffalo.

Measures

Appearance-based rejection sensitivity. Participants completed a revised version of the Appearance-RS Scale that was developed for use with young adults (Park, 2007). Ten of the original 15 hypothetical scenarios were slightly modified to be

age-appropriate (see the appendix for the revised items). For instance, the original scenario "You are at a dance club and all of your friends have been asked to dance except you" was changed to "You are at a school dance and all of your friends have been asked to dance except you" and the original scenario "You are trying on clothes at a department store and notice that you are a few pounds heavier than last week" was changed to "You are trying on clothes at the mall and notice that you are a few pounds heavier than last week." The remaining five scenarios were not retained because there were no possible age-appropriate modifications (e.g., "Your new boyfriend or girlfriend bought you a gym membership for your birthday"; "Your boyfriend or girlfriend of 3 months is considering breaking up with you"). Following each scenario, participants indicated how anxious they would feel and how likely they expected to be rejected based on their physical appearance on a 6-point Likert scale, ranging from 1 (*not nervous*) to 6 (*very, very nervous*) for anxiety items, and 1 (*very unlikely*) to 6 (*very likely*) for the expectation of rejection items. Appearance-RS was calculated in each situation by multiplying the degree of anxious concern with the degree of rejection expectation. Individual Appearance-RS scores were then calculated by averaging the total ratings of anxious expectations of rejection for each participant across the 10 scenarios (Park, 2007). The internal consistency of this final Appearance-RS scale was excellent (α = .91). An exploratory factor analysis (maximum likelihood method) was performed, and the scree plot (Cattell, 1966) suggested that a one-factor solution was most appropriate (all loadings >.40; Tabachnick & Fidell, 2007).

Personal-rejection sensitivity. The shortened version of the Children's Rejection Sensitivity Questionnaire (Downey, Lebolt, Rincon, & Freitas, 1998) was used to assess Personal-RS. Participants were presented with six hypothetical scenarios that involve the possibility of rejection (e.g., "Imagine that a famous person is coming to visit your school. Your teacher is going to pick five kids to meet this person. You wonder if she will choose you."). Each scenario was followed by questions assessing anxious feelings (e.g., "How nervous would you feel, right then, about whether or not the teacher will choose you?") and expectation of rejections (e.g., "Do you think the teacher will choose you?"). Participants reported on a 6-point Likert scale, ranging from 1 (*not nervous*) to 6 (*very, very nervous*) for the anxiety items, and 1

(*very unlikely*) to 6 (*very likely*) for the expectation of rejection items. Total Personal-RS scores were calculated by multiplying the expected likelihood of rejection by the degree of anxiety reported for each situation and dividing by the total number of situations. Similar to previous studies of Personal-RS during late childhood and early adolescence (e.g., Downey et al., 1998), adequate internal consistency for this scale was found in the present study ($\alpha = .79$).

Self-esteem. Self-esteem was assessed with the 10-item Rosenberg Self-Esteem scale (Rosenberg, 1965). Participants rated how strongly they agreed or disagreed with each statement (e.g., "I am able to do things as well as most other people"), and mean scores were calculated with higher scores indicating higher self-esteem. Previous research indicates that this measure is a reliable and valid measure of self-esteem during adolescence (e.g., McLean, Breen, & Fournier, 2010), and the reliability for this measure in the current study was also acceptable ($\alpha = .87$).

Social anxiety. To assess social anxiety, participants completed the Social Anxiety Scale for Children-Revised (La Greca & Stone, 1993). This measure yields three distinct but related social anxiety subscales: (1) *Negative evaluation from peers* (eight items; e.g., "I worry about what other kids think of me;" $\alpha = .89$), (2) *Social avoidance and distress specific to new situations* (six items; e.g., "I get nervous when I talk to new kids;" $\alpha = .80$), and (3) *Generalized social avoidance and distress* (four items; e.g., "I feel shy even when with kids I know well;" $\alpha = .62$). Due to the low alpha for the generalized social avoidance and distress subscale, only the fear of negative evaluation and social avoidance and distress specific to new situations subscales were examined further. Mean scores were calculated with higher scores indicating greater fear of negative evaluation or greater social avoidance and distress.

Friendships and romantic relationships. Participants were asked to write the names of their same-gender "very best friend" and "second best friend" from their grade and school. Sixty percent of participants had at least one *mutual* (or reciprocated) same-gender best friend, which is similar to percentages reported in other studies of best friendship during early adolescence (e.g., Parker & Asher, 1993). Participants were also asked to write the names of three same- or other-gender "good"

friends from their grade and school and to indicate whether they had a boyfriend or girlfriend (Carlson & Rose, 2007). Approximately 42% (60 of 143) of young adolescents indicated that they had at least one other-gender friendship, and 24% (34 of 143) reported having a current romantic relationship partner, percentages that are similar to those reported in past studies of other-gender friendship and romantic relationships during early adolescence (e.g., Arndorfer & Stormshak, 2008; Carlson & Rose, 2007). All romantic partner nominations were for other-gender peers. Very few adolescents had *mutual* romantic relationships or other-gender friendships (<10% of the sample, which is very common during this developmental period; Rubin et al., 2006). Thus, we followed procedures in past studies (e.g., Arndorfer & Stormshak, 2008; Feiring, 1999; Kuttler et al., 1999) and considered nominations for other-gender friends and romantic partners, regardless of mutuality, or the perception of having these relationships, in the analyses below. Chi-square analyses did not reveal any significant gender differences in the likelihood of having a mutual best friend, $\chi^2(1, N = 124) = 0.15, p = .70, \phi = 0.03$, reporting at least one other-gender friendship, $\chi^2(1, N = 143) = 1.60, p = .21, \phi = 0.11$, or reporting a romantic partner, $\chi^2(1, N = 143) = 2.30, p = .13, \phi = 0.13$.

Peer acceptance. Similar to previous studies (e.g., Dijkstra, Lindenberg, & Veenstra, 2007), participants were asked to nominate up to three same-gender and three other-gender peers in their grade for "someone you like to be with most." For each participant and for each item, the number of received nominations were first summed, proportionalized, and standardized to yield separate scores for same-gender and other-gender peer acceptance.

Data Analytic Plan

To test the zero-order associations between Appearance-RS, Personal-RS, the potential moderator variables (other-gender friendships, peer acceptance, romantic relationship, and gender), same-gender peer relations (same-gender peer acceptance, mutual best friendship involvement), and the psychological variables (self-esteem, the two social anxiety subscales), correlational analyses were performed. Due to the large number of correlations, a Bonferroni correction was applied ($.05/55 = .001$). One independent *t*-test assessed gender differences in Appearance-RS.

Next, to test the unique associations between Appearance-RS and psychological difficulties and to determine whether other-gender peer relations moderate the links between Appearance-RS and psychosocial adjustment for adolescent boys and girls, a series of hierarchical multiple regression analyses were performed. A total of nine models were run; three models (each with a different other-gender peer experience being tested as a moderator) were tested for each dependent variable. At Step 1, Personal-RS, same-gender peer acceptance, and mutual same-gender best friendship involvement (coded as 0 = no mutual best friendship, 1 = at least one mutual best friendship) were entered as control variables. Ethnicity was collapsed into a two category variable (0 = Caucasian, 1 = "Ethnic minority group", due to small cell sizes) and also entered as a covariate at Step 1 to insure that any effects of Appearance-RS were relatively independent of the effects of ethnicity or race on sociometric and peer nominations (Jackson, Barth, Powell, & Lochman, 2006). Ethnicity was tested in an exploratory fashion as a moderator variable, but the interactions were not included in the final models because they were not significant. At Step 2, Appearance-RS was entered, along with adolescent gender (0 = boys, 1 = girls), and the focal other-gender peer variable (either other-gender romantic partner or friendship involvement coded as 0 = none, 1 = yes, or other-gender peer acceptance). All two-way interactions were entered at Step 3, and the three-way interaction was entered at Step 4. To reduce multicollinearity and facilitate the inter-

pretation of interaction terms, continuous predictor variables were centered prior to the formation of interactions (Aiken & West, 1991). Main and interaction effects were interpreted only if they were entered at a step that yielded a significant increase in the variance explained, and all interactions were probed according to the procedures outlined by Aiken and West (1991). For ease of communication, only the final steps of all regression models and predictors in these models that were significant (in at least one model) are presented in Table 2.

RESULTS

Descriptive Statistics, Intercorrelations, and Bivariate Correlations

Table 1 presents correlations among the study variables. Means and standard deviations are also presented in this table. The correlations revealed a pattern which was, by and large, consistent with previous research and provide validity for the Appearance-RS measure for adolescents. Of note, it was found that Appearance-RS and Personal-RS were moderately correlated. Also, Appearance-RS was associated significantly with self-esteem and the two social anxiety subscales. The two social anxiety scales were only moderately correlated, supporting suggestions that the two subscales reflect related but distinct types of social anxiety during adolescence (La Greca & Stone, 1993).

There were no significant associations found between other-gender friendship, other-gender romantic

TABLE 1
Zero-Order Intercorrelations Among Study Variables

	1	2	3	4	5	6	7	8	9	10	11
1. A-RS		.58**	-.39**	.66**	.47**	-.07	-.04	-.07	.12	-.08	.18
2. Personal-RS			-.42**	.56**	.41**	-.10	-.13	.09	.06	-.08	.10
3. Self-esteem				-.57**	-.34**	.06	.15	.02	-.12	-.04	-.15
4. Ear negative					.58**	.04	-.05	-.07	.16	.01	.21
5. Social avoid						-.08	.04	-.03	.01	-.11	.12
6. SG accept							.49**	.09	.13	.37**	.06
7. SG friend								.05	-.03	.12	.03
8. OG romantic									.09	.02	.13
9. OG friend										.19	-.11
10. OG accept											-.09
11. Gender											
<i>M</i>	7.80	8.19	3.05	2.23	2.10	0.00	0.60	0.24	0.42	0.00	0.59
<i>SD</i>	6.54	5.26	0.60	0.96	0.86	1.00	0.50	0.43	0.50	1.00	0.49

Note. A-RS refers to Appearance-RS; SG refers to same-gender; OG refers to other-gender. All relationship variables are coded as 0 = the absence of the relationship; 1 = the presence of the relationship; gender is coded as 0 = boys; 1 = girls.

** $p < .001$.

relationships, and other-gender peer acceptance, likely because different types of peer experiences at different levels of social complexity, such as friendship (dyadic level) and peer acceptance (group-level), represent related but distinct types of experiences. The lack of significant associations among these variables support the possibility that other-gender friendship and other-gender peer acceptance as moderators may lead to different findings. Gender was not related significantly to the other study variables (after the correction) and exploratory analyses revealed few gender differences in the pattern of zero-order correlations among variables (output available by request), but a *t*-test did reveal that girls ($M = 8.79$, $SD = 7.28$) reported higher Appearance-RS than did boys ($M = 6.34$, $SD = 4.98$), $t(141) = -2.39$, $p = .02$, $d = 0.39$.

It is important to note that previous researchers have not found that Personal-RS is significantly associated with peer rejection (as assessed by *likes least* items; London et al., 2007). The same was true in the present study; exploratory tests revealed that peer rejection (assessed by same- and other-gender peer nominations for *rather not be with*; e.g., Bowker, Rubin, Buskirk-Cohen, Rose-Krasnor, & Booth-La-Force, 2010) was not significantly associated with Personal-RS, $r(143) = -.09$, $p = .32$, or Appearance-RS, $r(143) = -.15$, $p = .08$. In addition, when the regression analyses described below were repeated with peer rejection entered as a control variable, a nearly identical pattern of results emerged.

Testing Unique Associations Between Appearance-RS and the Psychological Outcomes

After accounting for ethnicity, same-gender peer acceptance, involvement in same-gender friendships, and Personal-RS, Appearance-RS (entered at Step 2 of all regression models) emerged as a unique predictor of fear of negative evaluation ($\beta s = 0.46\text{--}0.48$, $t s = 5.44\text{--}5.65$, $p s = .001$) and social avoidance and distress ($\beta s = 0.39\text{--}0.41$; $t s = 3.90\text{--}4.05$, $p s = .001$). Appearance-RS did not predict self-esteem in any models (Step 2: $\beta s = -0.13\text{--}(-.15)$, $t s = -1.24\text{--}(-1.39)$; however, it should be noted that in the model in which other-gender acceptance served as the moderator variable and social avoidance and distress served as the dependent variable, a significant interaction between Appearance-RS and gender was found ($\beta = -0.39$, $t = -2.39$, $p = .05$). Follow-up simple slopes analyses indicated that Appearance-RS is a stronger predictor of social avoidance and distress for boys ($\beta = 0.82$, $p = .001$) than for girls ($\beta = 0.36$, $p = .001$).

Also of note, Personal-RS (entered at Step 1 of all regression models) emerged as a unique predictor of fear of negative evaluation ($\beta = 0.57$, $t = 7.52$, $p = .001$) and self-esteem ($\beta = -0.44$, $t = -5.27$, $p = .001$). In all three models in which social avoidance and distress served as the dependent variable, Personal-RS ($\beta = 0.42$, $t = 5.05$, $p = .001$) and mutual same-gender best friendship involvement ($\beta = 0.19$, $t = 2.00$, $p = .05$) were unique predictors at Step 1. However, after Appearance-RS was entered into the model, Personal-RS was no longer a significant predictor in all models predicting social avoidance and distress ($\beta s = 0.17\text{--}0.19$, $t s = 1.77\text{--}1.91$; $p s > .06$). The main effect of ethnicity was significant when fear of negative evaluation served as the outcome ($\beta = -0.16$, $t = -2.14$, $p = .05$); all other main effects were not significant.

Testing Other-Gender Peer Experiences as Moderators of the Associations Between Appearance-RS and the Psychological Outcomes

Romantic relationship involvement did not emerge as a significant moderator. However, a significant Appearance-RS \times other-gender friendship involvement interaction emerged at Step 3 in the model predicting social avoidance and distress ($\beta = -0.22$, $t = -1.98$, $p = .05$). Follow-up simple slope analyses revealed that Appearance-RS is more strongly associated with social avoidance and distress for adolescents without other-gender friendships ($\beta = 0.81$, $p = .001$) than for those with other-gender friendships ($\beta = 0.48$, $p = .03$; see Figure 1). There were no other significant interactions involving other-gender friendship.

Other-gender peer acceptance emerged as a significant moderator in several models. First, a significant interaction between Appearance-RS and other-gender peer acceptance emerged when predicting self-esteem (Step 3: $\beta = -0.31$, $t = -2.88$, $p = .001$). Follow-up simple slope analyses indicated that Appearance-RS was a significant negative predictor of self-esteem for adolescents who were high on other-gender peer acceptance ($\beta = -0.68$, $p = .01$), but that the associations between Appearance-RS and self-esteem were not significant for adolescents who were average (or at the mean/medium levels; $\beta = -0.34$, $p = .09$) and low in other-gender peer acceptance ($\beta = 0.02$, $p = .93$). These results are visually depicted in Figure 2.

Second, a significant three-way interaction between Appearance-RS, gender, and other-gender peer acceptance emerged when fear of negative evaluation served as the outcome (see Table 2).

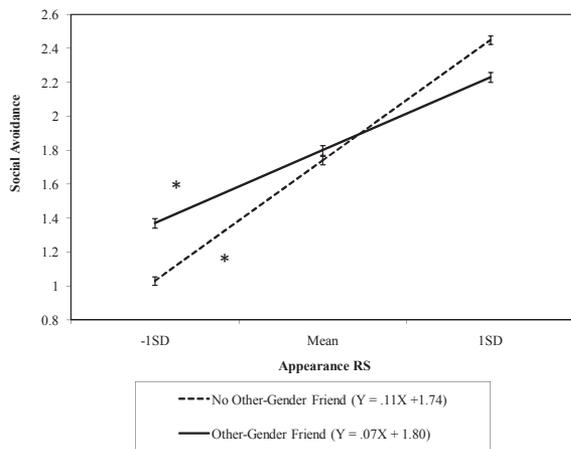


FIGURE 1 Social avoidance and distress as a function of appearance-based rejection sensitivity for adolescents with and without other-gender friends. Error bars represent the standard error of the estimate. Simple slope formulas include the unstandardized regression coefficients.

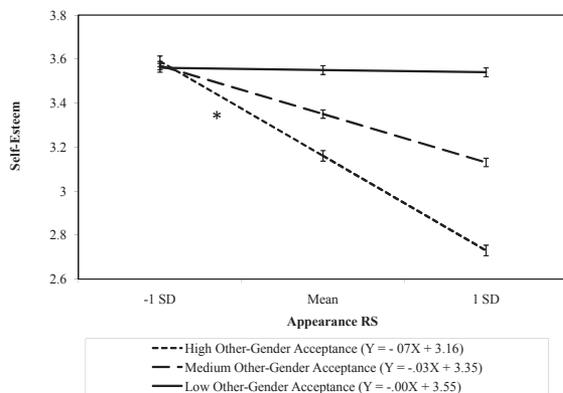


FIGURE 2 Self-esteem as a function of appearance-based rejection sensitivity at high, medium, and low levels of other-gender peer acceptance. Error bars represent the standard error of the estimate. Simple slope formulas include the unstandardized regression coefficients.

Follow-up simple slope analyses revealed that Appearance-RS and fear of negative evaluation were significantly related for boys who were high in other-gender peer acceptance ($\beta = 1.27, p = .002$). However, this association did not reach significance for boys who were low in other-gender peer acceptance ($\beta = 0.39, p = .08$). In contrast, for girls, the association between Appearance-RS and fear of negative was evaluation was stronger for girls who were low in other-gender peer acceptance ($\beta = 0.53, p = .001$) than girls who were high in other-gender peer acceptance ($\beta = 0.35, p = .008$). See Figure 3.

Third, a significant interaction between other-gender acceptance and gender was evinced when

TABLE 2 Significant Predictors in the Final Steps (Step 4) of the Regression Models

Model predictors	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	
	β	t	β	t	β	t	β	t	β	t	β	t	β	t	β	t	β	t
Ethnicity	0.02	0.28	-0.13	-1.94	-0.03	-0.38	0.03	0.32	-0.13	-1.98*	-0.02	-0.29	-0.00	-0.03	-0.12	-1.81	-0.09	-1.08
P-RS	-0.36	-3.22**	0.27	3.06**	0.19	1.84	-0.39	-3.52**	0.26	3.03**	0.14	1.40	-0.35	-3.36**	0.26	3.03**	0.09	0.92
A-RS	-0.30	-1.28	0.65	3.47**	0.91	4.20**	-0.07	-0.33	0.55	3.36**	0.73	3.74**	-0.26	-1.08	0.83	4.34**	0.87	3.94**
AcceptOG	—	—	—	—	—	—	—	—	—	—	—	—	-0.19	-0.76	0.40	2.01*	0.19	0.81
A-RS x Gender	0.15	0.67	-0.17	-0.92	-0.40	-1.93	-0.13	-0.65	-0.18	-1.16	-0.35	-1.92	0.13	0.63	-0.34	-2.03	-0.44	-2.31*
Gender	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.50	-0.13	-0.13	-0.30	-2.02*
AcceptOG	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
A-RS x Gender x AcceptOG	—	—	—	—	—	—	—	—	—	—	—	—	-0.17	-0.36	-0.72	-0.36	-1.96*	-0.11
Gender x AcceptOG	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Note. P-RS = personal-rejection sensitivity; A-RS = appearance-based rejection sensitivity; OG = other-gender. Gender was coded as 0 = boys, 1 = girls. Other-gender romantic relationships, other-gender friendships, and other-gender peer acceptance were tested as the moderators in models 1-3, 4-6, and 7-9, respectively; self-esteem was the dependent variable in models 1, 4, and 7; fear of negative evaluation was the dependent variable in models 2, 5, and 8; social avoidance and distress was the dependent variable in models 3, 6, and 9. ** $p < .001$; * $p < .05$.

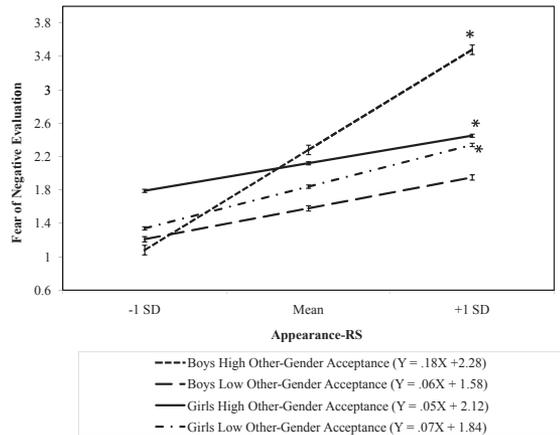


FIGURE 3 Fear of negative evaluation as a function of appearance-based rejection sensitivity at high and low levels of other-gender peer acceptance for boys and girls. Error bars represent the standard error of the estimate. Simple slope formulas include the unstandardized regression coefficients.

social avoidance and distress served as the dependent variable, ($\beta = -0.25$, $t = -2.27$, $p = .05$). Simple slope analyses probing the interaction between gender and other-gender acceptance revealed that the association between other-gender acceptance and social avoidance was significant and negative for girls ($\beta = -0.38$, $p = .02$), but not significant for boys ($\beta = 0.09$, $p = .48$).

DISCUSSION

Appearance-RS During Early Adolescence

Early adolescence is the developmental period during which boys and girls are most sensitive to general rejection by peers and when the onset of puberty and the emergence of other-gender peer relationships tend to heighten concerns about physical appearance (e.g., Dunphy, 1963). This is the first study to examine Appearance-RS during this important period. Our findings build upon results from Park and colleagues in studies of adults (e.g., Park, 2007; Park & Pinkus, 2009) by revealing that Appearance-RS is moderately correlated with Personal-RS, low self-esteem, and two types of social anxiety (fear of negative evaluation and social avoidance and distress to new situations and peers) during early adolescence.

An examination of gender differences indicated that young adolescent girls report more Appearance-RS than do young adolescent boys, perhaps because many of the items on the revised Appearance-RS measure are geared toward those elements of appearance that are especially important to

women and girls (e.g., such as sensitivities to weight). In addition, Appearance-RS emerged as a unique predictor of both types of social anxiety (but not self-esteem) after controlling for Personal-RS, ethnicity, same-gender peer acceptance, and mutual same-gender best friendship involvement, whereas Personal-RS was uniquely related to self-esteem and fear of negative evaluation (but not social avoidance after Appearance-RS was entered into the models). The unique relation between Appearance-RS and social avoidance is consistent with previous research demonstrating that high Appearance-RS individuals often cope with appearance rejection using avoidant behavior (Park & Pinkus, 2009). Together with earlier findings, results from this investigation further confirm that Personal-RS and Appearance-RS are related processing biases with distinct psychological risk correlates (e.g., Downey et al., 1998; Park, 2007; Park & Pinkus, 2009; Park et al., 2009). They also strongly suggest that future studies of adolescent RS and adjustment should not be restricted to Personal-RS.

Appearance-RS and Other-Gender Peer Experiences

The most noteworthy finding was that the degree of psychological risk associated with Appearance-RS during early adolescence depends on different experiences that adolescents have with other-gender peers. These results accord with growing evidence that other-gender peer relations are the key social context in which appearance concerns are most salient and influential on processing and adjustment (Park, 2007; Park & Pinkus, 2009). They extend previous work by demonstrating the importance of young adolescents' *current* peer relations with other-gender peers at both the dyadic (other-gender friendships) and group-levels (other-gender peer acceptance) of social complexity (Rubin et al., 2006).

At the dyadic level, it was found that the association between Appearance-RS and social avoidance and distress was stronger for adolescents *without* other-gender friendships than for adolescents with other-gender friendships. This finding is notable because although it is well-established that *same-gender* friendships can be protective for adolescents who are at risk for internalizing difficulties (e.g., Hodges, Boivin, Vitaro, & Bukowski, 1999), this study is the first, to our knowledge, to demonstrate a protective effect of involvement in *other-gender* friendships.

What might explain the attenuated link between Appearance-RS and social avoidance and distress for young adolescents with other-gender friendships? Prior research has shown that other-gender friendships and mixed-gender cliques first begin to form during early adolescence (Dunphy, 1963; Furman & Collins, 2008) and that involvement in these early types of other-gender relationships is predictive of later involvement in romantic relationships and early sexual intercourse (Boislard & Poulin, 2011; Connolly, Furman, & Konarski, 2000; Feiring, 1999). It has also been found that positive perceptions of other-gender peer relations during early adolescence are associated with positive perceptions of one's physical appearance (Davison & McCabe, 2006). Thus, having other-gender friendships during this developmental period may provide some feelings of security regarding one's appearance and foster social confidence, while lacking such friendships may exacerbate concerns about possible appearance-based rejection by other-gender peers and avoidant coping tendencies. Other-gender friends may also provide positive feedback to adolescents about their appearances, which in turn, promote more positive appearance-related self-concepts and psychological well-being. We hope that subsequent research will build on our findings by continuing to investigate the ways in which other-gender friendships can help young adolescents at risk for internalizing difficulties.

In contrast to having other-gender friends, our results showed that being highly accepted by other-gender peers (a group-level peer experience) may be a risk factor for adolescents who are vulnerable to appearance-related concerns and anxieties. Specifically, high other-gender peer acceptance exacerbated the link between Appearance-RS and low self-esteem, and fears of negative evaluation (boys only). These findings suggest that there may be negative "trade-offs" associated with high other-gender peer acceptance, which to date has been described as a peer experience that develops from the display of peer-valued characteristics (e.g., athletic ability; attractiveness) and that brings positive social benefits (Bukowski et al., 1993; Dijkstra et al., 2007, 2009). Further research will be needed to investigate the specific mechanisms through which other-gender peer acceptance contributes to appearance concerns and fears of rejection. But, it is possible that this type of high group-level status brings increased attention and social visibility (Bukowski et al., 1993), which increases concerns about negative appearance evaluations, poor feelings about the self, and fears of

rejection (Davison & McCabe, 2006; Lieberman et al., 2001).

There are at least two potential explanations for the gender differences found herein. First, boys may be especially vulnerable to the negative effects of high visibility associated with other-gender peer acceptance because physical attractiveness is the strongest predictor of other-gender peer acceptance for boys, and as a result, they may feel increased physical appearance-related pressure (Dijkstra et al., 2009). Athleticism appears to be most important for girls' acceptance by boys (Dijkstra et al., 2009), raising the possibility that girls who are highly accepted by boys may feel a reprieve from appearance-related pressures. Second, boys who are highly accepted by girls may spend increased time in the company of girls (perhaps due to friendships or emerging social, romantic, and sexual preferences), which in turn, leads them to acquire some of their female peers' concerns with appearance. Such boys might also experience considerable distress if they are highly concerned with their appearances and with being accepted by both boys and girls. In general, however, being highly accepted by boys seems to foster some social confidence in girls; other-gender peer acceptance was a *negative* predictor of social avoidance and distress for girls only.

Past research has shown that high Personal-RS men and women respond differently to perceived rejection in the context of romantic relationships (e.g., Downey & Feldman, 1996; Harper et al., 2006; Smith, Welsh, & Fite, 2010). Gender differences have also been found in the types of rejection that most strongly impact the behavior of Personal-RS males and females during emerging adulthood (Romero-Canyas et al., 2010). For instance, Personal-RS males were found to be especially sensitive to rejection related to social status. The authors argue that Personal-RS men and women are most sensitive to sources of rejection and acceptance whose feedback is self-defining (Romero-Canyas et al., 2010). Therefore, results from the present study may suggest that some of the gender-specific reactions and linkages between forms of rejection/acceptance and adjustment found in Personal-RS adults and romantic relationships begin to develop during early adolescence and in the context of peer relationships.

Limitations and Future Research

Although study findings significantly contribute to our understanding of RS and other-gender peer relationships during early adolescence, it is important to consider study limitations when interpreting

the results. To begin, our study was not longitudinal, and thus it is not possible to make inferences regarding causality. We were guided by theory on Appearance-RS and the child by the environment model of risk (Magnusson & Stattin, 2006; Park, 2007), but it will be important for longitudinal studies to examine the likely bidirectional association between other-gender peer relationships and Appearance-RS, and to determine whether the effects of other-gender involvement and high other-gender peer acceptance are short- or long-term in nature. This study was also limited by its sample size, modest power, and small effect sizes, which highlight the need for replication and future work with larger samples. Significant associations between Appearance-RS, Personal-RS, and the psychological outcomes provide some evidence of convergent validity for the revised version of the Appearance-RS measure (Park, 2007). However, this measure and study are limited by its focus on appearance-related concerns that are likely more important to adolescent girls than boys. Future studies would benefit from also asking adolescents about appearance-related concerns that are especially important to boys (e.g., musculature, height), which may contribute to a better understanding of the gender differences found herein. Also, additional psychometric work on the Appearance-RS measure is clearly needed, including evidence of test-retest stability and divergent validity.

It may be fruitful to assess the quality of young adolescents' other-gender friendships to determine which qualities (e.g., companionship) best buffer adolescents from the psychological stress associated with Appearance-RS. Although the majority of young adolescents have same-gender best friendships only (e.g., Arndorfer & Stormshak, 2008), examining young adolescents' same-gender *and* other-gender best friendships in relation to Appearance-RS and psychological adjustment may lead to a deeper understanding of the various ways that friendships can operate as risk and protective factors during early adolescence. The percentage of adolescents reporting at least one other-gender friendship in this study was comparable with percentages in past studies, and it is common to rely on perceptions of other-gender relationship involvement (e.g., Feiring, 1999). Nevertheless, future research should utilize unlimited friendship nominations and explore the "meaning" of unilateral other-gender friendships (e.g., Do relationships actually exist or do they reflect positive feelings toward other-gender peers?).

It should be noted that our findings pertain to a specific sample of seventh-grade students from one

public middle school in Western New York and may not generalize to young adolescents from other regions, or older adolescents or younger children. Expanding this research to older adolescents will be necessary to determine whether romantic relationship involvement emerges as a significant moderator when these relationships become more common and more influential on psychosocial adjustment and well-being (Furman & Collins, 2008). Studies with larger sample sizes would allow for the testing of unique effects of the moderators on Appearance-RS and psychological adjustment in children and adolescents. Of course, the moderating effects of same-gender and other-gender peer relations experiences may depend on sexual orientation, which was not assessed in the current study. Sexual minority youth may be more sensitive to negative cues from and relationship involvement with *same*-gender peers, and thus it will be critical to include measures of sexual orientation and both same- and other-gender peer relations experiences in future research to move this field forward. Studies of younger children could help to better illuminate the etiology of appearance-based rejection biases. In addition, future work should include assessments of pubertal maturation to test whether pubertal timing is associated with other-gender peer acceptance and appearance concerns. In such work, it would be important to consider experiences with older peers, given the unexpected gender differences found in this study and evidence that early maturing girls often affiliate with and date older boys (e.g., Marin, Coyle, Gomez, Carvajal, & Kirby, 2000). It may be that for early maturing girls, peer acceptance by *older* boys is an especially strong risk and protective factor.

Finally, the focus of our study was restricted to three specific psychological correlates that have been associated with Appearance-RS in past research (Park, 2007; Park & Pinkus, 2009). However, future studies should include other psychological adjustment outcomes (i.e., body image concerns), including those that are more clinically-relevant (i.e., body dysmorphic disorder, eating disorder symptoms; Park et al., 2009), to further investigate the nature and degree of psychopathology associated with Appearance-RS during early adolescence. Future research should also separately consider Appearance-RS in relation to the emotional, cognitive, and behavioral components of social anxiety, which we were not able to do (because of our measure of social anxiety) but could have important implications for intervention efforts.

Clinical Implications

Findings from this investigation may have important policy and clinical implications. Given that Appearance-RS appears to be a risk factor for psychological difficulties during early adolescence, there is a clear need for additional prevention and intervention programs aimed at fostering positive body image and self-esteem during the middle school years. Although there are a number of existing programs with these goals, the long-term effectiveness of the programs is limited (e.g., McVey, Davis, Tweed, & Shaw, 2004; O'Dea & Abraham, 2000). However, it is possible that a stricter focus on other-gender peer relationships, and perhaps specific instruction about the potentially stressful appearance concerns that may come with being highly liked by other-gender peers, could help to better address young adolescents' fears and anxieties about their bodies and improve program efficacy. Of course, it may not always be possible to prevent young adolescents from developing concerns about their appearance, but researchers should consider whether it is possible to foster platonic other-gender friendships for high Appearance-RS adolescents, perhaps vis-à-vis peer pair-training and therapy (Selman & Schultz, 1990). If more other-gender friendships can be developed, we may see that they help to alleviate some of young adolescent boys' and girls' appearance concerns.

Conclusion

Results of this study extend our knowledge of rejection sensitive biases by demonstrating that Appearance-RS and Personal-RS are related but distinct forms of RS during early adolescence and that the degree of psychological risk associated with Appearance-RS depends on adolescents' involvement in other-gender friendships and variability in other-gender peer acceptance. This study provides further evidence that close friendships can be protective for adolescents at risk for internalizing difficulties and support the need for additional research on the potential negative trade-offs associated with high other-gender peer acceptance.

APPENDIX

Appearance-Based Rejection Sensitivity Scale for Adolescents

1. You are leaving your house to go to school when you notice a blemish or a pimple on your face.

2. You are trying on clothes at the mall and notice that you are a few pounds heavier than last week.
3. You get your class photos and everyone is exchanging them with each other. Some of your classmates do not ask you for one of your photos.
4. There is a really good-looking classmate in your math class and you have been trying to get him/her to notice you. During class, you notice him/her looking at another attractive classmate across the room.
5. You've asked the new student in your class to the school dance. Three days have passed and he/she has still not given you an answer.
6. You are at a school dance and all of your friends have been asked to dance except for you.
7. You go to the movies with a group of friends where you meet someone new that you get along really well with. You exchange e-mails but he/she has not yet e-mailed you for several days.
8. In gym class, you are learning how to square dance. When the teacher tells everyone to find a partner, no one chooses you.
9. A classmate of the opposite sex makes a comment about your weight.
10. You look at yourself in the mirror and notice that your pants are too tight.

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