

UCLA

UCLA Previously Published Works

Title

Do Parental Bonds Break Anti-fat Stereotyping?

Permalink

<https://escholarship.org/uc/item/0511n8vr>

Journal

Social Psychological and Personality Science, 4(6)

ISSN

1948-5506

Authors

Kenrick, Andreana C
Shapiro, Jenessa R
Neuberg, Steven L

Publication Date

2013-11-01

DOI

10.1177/1948550613479805

Peer reviewed

Do Parental Bonds Break Anti-fat Stereotyping?: Parental Work Ethic Ideology and Disease Concerns Predict Bias Against Heavyweight Children

Andreana C. Kenrick, Jenessa R. Shapiro and Steven L. Neuberg

Social Psychological and Personality Science 2013 4: 721 originally published online 14 March 2013

DOI: 10.1177/1948550613479805

The online version of this article can be found at:
<http://spp.sagepub.com/content/4/6/721>

Published by:



<http://www.sagepublications.com>

On behalf of:

Society for Personality and Social Psychology



Association for Research in Personality

ASSOCIATION FOR
RESEARCH IN PERSONALITY

European Association of Social Psychology

EASP

European Association
of Social Psychology

Society of Experimental and Social Psychology



Additional services and information for *Social Psychological and Personality Science* can be found at:

Email Alerts: <http://spp.sagepub.com/cgi/alerts>

Subscriptions: <http://spp.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>


Permissions: <http://www.sagepub.com/journalsPermissions.nav>

>> [Version of Record](#) - Oct 14, 2013

[OnlineFirst Version of Record](#) - Mar 14, 2013

[What is This?](#)

Do Parental Bonds Break Anti-fat Stereotyping? Parental Work Ethic Ideology and Disease Concerns Predict Bias Against Heavyweight Children

Social Psychological and
Personality Science
4(6) 721-729
© The Author(s) 2013
Reprints and permission:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/1948550613479805
spps.sagepub.com


Andreana C. Kenrick¹, Jenessa R. Shapiro², and Steven L. Neuberg³

Abstract

This study examined whether and under what conditions parents might stereotype their own heavyweight children. Parents completed a survey assessing their beliefs about their 9- to 11-year-old children. Parents were also assessed on factors previously demonstrated to moderate people's reactions to heavyweight strangers, including Protestant work ethic (PWE) and personal vulnerability to disease. Consistent with findings on how people view heavyweight strangers, parents who endorsed the PWE or had enhanced disease concerns attributed negative fat stereotypes (e.g., laziness, lacking self-control) to their heavyweight children. Although parental identification did not moderate stereotyping of one's overweight children, those individuals who highly identified with their role as parents spent more time with their heavier-weight children, potentially reflecting a compensatory pattern of behaviors. That even parents negatively stereotype their young heavyweight children reveals the long reach of the anti-fat psychology and suggests that efforts to mitigate the application of fat stereotypes may be particularly difficult.

Keywords

prejudice/stereotyping, stigma, stereotypes, family, interpersonal relationships

Overweight and obese people are often perceived negatively, disliked, and discriminated against in social, academic, and professional realms (Allon, 1982; King, Shapiro, Hebl, Singletary, & Turner, 2006; Miller, 1998; Puhl & Heuer, 2009). The stigma of obesity appears to be particularly painful during childhood, predicting a number of negative consequences for children, including depression and suicidal behaviors, as well as poorer self-esteem, academic outcomes, and cardiovascular health (Puhl & Latner, 2007). Experiencing weight-based stigma within one's family may be especially detrimental, but research is lacking in this context (Puhl & Latner, 2007). One exception emerges in research on older children, revealing that parents provide less college financial support for their heavyweight daughters compared to their average-weight daughters and heavyweight or average-weight sons (Crandall, 1991, 1995).

In the present research, we investigate parents' weight-based views of, feelings toward, and behaviors with their young children as a function of parents' ideologies and personal vulnerabilities that tend to predict weight-based stigma. First, we review literature on parent-child relationships and psychological processes that would suggest that parents should not stereotype their own children. Then, we review research on individual differences that have been shown to predict anti-fat attitudes. In so doing, we argue that parents who endorse work ethic ideologies and feel particularly vulnerable to disease

(both linked to weight-based stigma) will fat-stereotype their heavier weight children.

Factors That Could Protect Against Parental Stigmatization of Their Heavyweight Children

For many reasons, one might expect little parental stereotyping and stigmatization of their heavyweight children. Parents spend many years bonding and forming loving attachments with their children, through which they acquire deep knowledge of their child's individuating characteristics; such levels of individuation tend to reduce stereotyping (Fiske & Neuberg, 1990). Parent-child attachments also tend to be positive and strong; perspectives ranging from balance theory (Heider, 1946) to inclusion-of-close-others-in-self approaches (Aron, Aron, Tudor, & Nelson, 1991) suggest that parents should thus

¹ Princeton University, Princeton, NJ, USA

² University of California, Los Angeles, Los Angeles, CA, USA

³ Arizona State University, Tempe, AZ, USA

Corresponding Author:

Andreana C. Kenrick, Department of Psychology, Princeton University, Princeton, NJ 08544, USA.

Email: akenrick@princeton.edu

exhibit favorability and enhancement biases when thinking about their children.

Moreover, research on parents of children stigmatized on the basis of other potentially stigmatizable characteristics suggests that parents of overweight children might behave positively—and perhaps, especially positively—toward them. For example, parents may attempt to compensate for the negative experiences such children experience in extrafamilial interactions or to manage guilt they may have for their children's condition. Indeed, clinical work suggests that parents of children with physical and mental handicaps often worry about their child's condition and everyday experiences and report feeling guilty, leading them to devote extra time and attention to their child (Bonner et al., 2006; Bryant, 1971; Harden, 2005).

Why Might Parents Stigmatize Their Own Children?

In contrast to the research reviewed above, there are good reasons to believe that obesity stigma may be particularly robust against the factors that could reduce parental stereotyping and stigmatization of children with other types of stigmas. The social factors that have worked to suppress the expression of—and that can change the actual negative content of—stereotypes, prejudices, and discrimination against many groups may be less effective at reducing anti-fat stigma. For instance, individuals who publicly express prejudice against obese people are not evaluated as negatively as are individuals who express racist views (Crandall & Biernat, 1990; Crandall, Eshleman, & O'Brien, 2002). Moreover, the particular psychological mechanisms that drive anti-fat stigma (e.g., beliefs about controllability, concerns with transmittable disease; see below) may make it seem more appropriate to stigmatize individuals on the basis of their weight than on the basis of other characteristics. In this light, it is interesting that several studies have shown that negative stereotypes of obese people are also held by obese people themselves (Allon, 1982; Crandall & Biernat, 1990; Schwartz, Vartanian, Nosek, & Brownell, 2006).

Furthermore, many parents of heavyweight children likely have a significant history of stigmatizing other heavyweight individuals. Children tend to stigmatize heavyweight people (Penny & Haddock, 2007), and because all parents were once children it is likely that many parents have engaged in anti-fat biases since long before they became parents. Moreover, a large percentage of adults stigmatize heavyweight people (for a review, see Puhl & Heuer, 2009). In addition to explicit anti-fat biases, 70% of web respondents at Project Implicit reveal implicit anti-fat bias, with 52% of those people indicating a moderate to strong implicit preference for thin relative to overweight individuals (Greenwald, Nosek, & Banaji, 2003; Nosek, Greenwald, & Banaji, 2007). In all, there are good reasons to believe that many parents possess mechanisms that drive anti-fat bias, have engaged in anti-fat biased behaviors in the past—even if unknowingly—and may currently engage them outside their family context.

Such mechanisms might not be so easily disengaged when parents think about their own children. Habits generally require no conscious thought or effort (Neal, Wood, & Quinn, 2006), and individuals who want to perform nonhabitual actions need to summon extra effort to guide their actions (Wood, Quinn, & Kashy, 2002). Thus, parents with habitual inclinations to stereotype and stigmatize overweight individuals would have to consciously and with effort override these inclinations when engaging with their own heavyweight children. Given that anti-fat ideologies and prejudices are socially sanctioned, can be self-directed, and can influence people outside of conscious awareness, it may be difficult for parents to override them even when evaluating and responding to their own children.

Moderators of Weight-Based Stigma: When Parents Might, or Might Not, Stigmatize

Although anti-fat stigma is pervasive, there should be variability in the tendency for parents to stigmatize their own heavyweight children. Not all individuals stigmatize heavyweight strangers, and we hypothesize that the same factors that drive the stigmatization of heavyweight strangers also drive the stigmatization of one's heavyweight children. One such mechanism is tied to attributions of responsibility and blame: Negative responses to obese people tend to emerge when individuals are blamed for their weight (Crocker, Cornwell, & Major, 1993). Moreover, people who view obesity as controllable have more negative attitudes toward obese people (Allison, Basile, & Yunker, 1991). Along these lines, people who endorse Protestant work ethic (PWE) ideologies—ideologies rooted in beliefs that life achievements are a matter of personal control—are especially likely to endorse anti-fat attitudes and distance themselves from overweight or obese individuals (Crandall, 1994; Crandall & Biernat, 1990; Crandall & Moriarty, 1995). This ideology-prejudice link appears to be so engrained that even those who are overweight themselves—if also endorsing PWE ideologies—report disliking overweight others (Quinn & Crocker, 1999). Merely being a parent might thus be insufficient for mitigating the effects of prejudice against one's own overweight child, especially if the parent endorses these ideologies associated with anti-fat bias.

The psychology of disease avoidance also drives the stigma of obesity and helps explain its pervasiveness. As an abnormal corporeal condition, obesity may heuristically (if imperfectly) signify a health threat (Park, Faulkner, & Schaller, 2003). Bodily aberrations such as skin lesions, bloating, and skin discoloration are heuristically perceived as cues to disease, and they readily elicit responses of disgust. These disgust reactions activate behavioral tendencies to retreat from targets possessing such features, thereby making more likely the successful avoidance of the pathogens presumed to reside within them (Park et al., 2003; Schaller & Neuberg, 2012). Indeed, people primed with images of germs and pathogens, or who chronically feel vulnerable to disease, are more likely to implicitly associate heavyweight, but not average-weight, people with disease (Park, Schaller, & Crandall, 2007). Given the fundamental nature of the disease-

avoidance system (Neuberg, Kenrick, & Schaller, 2011), we might expect most individuals who feel chronically vulnerable to disease threats—even parents—to respond to heavyweight children in similarly negative ways.

Finally, just as we contend that parents who hold particular ideologies and vulnerabilities may be especially likely to stigmatize their overweight children, we also predict that certain types of parents ought to be less likely to stigmatize their overweight children. More specifically, any compensatory behaviors that parents may engage in with their stigmatized children should depend on the degree to which they value their role as parents. In general, as people identify more strongly with their parenting role, they engage more in behaviors that align with this valued role, committing more time and emotional energy to their child (McBride & Rane, 1997; Simon, 1992). This may be especially relevant when one's child requires more effort than average—because the child has a stigmatizing condition—as one's parental identification might protect against the stress associated with caring for such a child. In support of this assumption, although parents experience initial negative affect and increased stress in response to a child's diagnosis of mental illness, those parents who strongly identify as caregivers exhibit more positive coping in their general response to the burdens of having a child with a mental illness (Marshall & Long, 2010) and report more positive relationships with their children (Milliken, 2001). This suggests that parents of stigmatized, heavyweight children who strongly identify with, and value, their parental role might engage in especially positive behaviors with their heavyweight children, perhaps in an effort to compensate for that child's stigma.

Present Research

In the current research, we explore (1) parents' beliefs about their young, heavyweight children, (2) parents' perceptions of the quality of their relationships with these children, (3) factors that may moderate such effects, and (4) implications for parental engagement in activities with their children. This research has both theoretical and pragmatic implications. Theoretically, although we know a great deal about the stigmatization of heavyweight strangers, we know very little about parental stigmatization of their heavyweight children (Puhl & Latner, 2007). The present findings will shed light on whether close relationships can mitigate the powerful stereotypes associated with weight. Pragmatically, the present findings will offer insight into intervention efforts. That is, the common assumption is that intervention research and application is most necessary within relationships between strangers. However, parental stigmatization of their children would point to a unique context that would potentially require more nuanced interventions.

Method

Participants and Procedure

Parents of fourth- and fifth-grade children were recruited from six southwestern elementary schools via parent-teacher

organizations. One hundred sixteen parents participated (87.1% female; $M_{\text{age}} = 42.5$; 81% White; 8% Hispanic; 4% Asian; 7% other/unreported; $M_{\text{BMI}} = 23.8$) in exchange for monetary compensation made to their parent-teacher organization. Parents reported an average household income of \$116,000–\$130,000 (standard deviation [SD] = \$52,000; reported income range: \$10,000–\$190,000). The mean and median level of education reported by parents was completing a college degree.

Each organization was paid as a function of parent participation rates from their school (\$50–\$100). Parents completed a questionnaire about one of their age-eligible children ($M_{\text{age}} = 10.1$; 56% female). The focal items, described in more detail below, were embedded in a broader survey assessing their child's health-related behaviors and scholastic and extracurricular activities. These filler items were included to conceal our interest in parents' perceptions of their heavier weight children (see online supplement at <http://spps.sagepub.com/supplemental> for a list of filler items included in the survey). Following these items were the focal ideology measures and demographics (race, parental income, parental education, and parental height and weight). Parents completed the survey in either hard copy ($n = 102$) or online ($n = 14$) formats.

Measures

Focal items assessed the child's height and weight, enabling us to calculate body mass index (BMI), and included the following measures:¹

Parental assessments of child's fat-stereotypical traits included 4 items consistent with stereotypes of overweight people being lazy and lacking self-control (“How lazy is your child?” “How much self-control does your child have?” “How much do you have to monitor your child to make sure s/he does what s/he should?” and “How often does your child do something like chores or homework without being asked or told to do so?” [R]. Parents responded using a 7-point Likert-type scale (1 = *not at all*, 7 = *very much*), $\alpha = .75$, $M = 3.24$, $SD = 1.2$.

Perceived quality of parent-child relationship was measured with 5 items on a 7-point Likert-type scale from the Parent and Youth Survey (Schenck et al., 2009), where higher scores indicate perceptions of better-quality relationships (e.g., “What type of relationship do you have with your child?” “How well do you get along with your child?”), $\alpha = .78$; $M = 5.51$; $SD = .80$.

Eight items assessed parent-child activity frequency, querying how frequently within the past 3 months parents engaged in activities such as playing games indoors and outdoors, going on outings, and shopping with their children (1 = *never*, 5 = *very often*; Schenck et al., 2009; $\alpha = .64$; $M = 3.53$; $SD = .48$).

Parental identity was measured with 2 items assessing the centrality of participants' identity as a parent (“You would feel a great sense of loss if suddenly you were unable to act as a parent” and “You are strongly committed to being a good parent”). Parents responded using a 5-point Likert-type scale

(1 = *very true*, 5 = *very false*; Schenck et al., 2009; $r = .40, p < .001$). Items were reverse-scored such that higher numbers indicate stronger parental identity. Overall, parents in the sample highly endorsed these items, resulting in low variability ($M = 4.6; SD = .45$).

Parental PWE was measured with 4 items from the PWE scale (McHoskey, 1994) that focus on work and success (e.g., “Most people who don’t succeed in life are just plain lazy”), $\alpha = .64; M = 4.54, SD = .95$. Participants responded using a 7-point Likert-type scale (1 = *not at all*, 7 = *very much*).

Parental perceived vulnerability to disease (PVD), the chronic belief that one is susceptible to disease threats, was measured with 6 items from the PVD scale (Park et al., 2003) (e.g., “In general, I am very susceptible to colds, flu, and other infectious disease”), $\alpha = .71, M = 3.04, SD = .99$. Participants responded using a 7-point Likert-type scale (1 = *not at all*, 7 = *very much*). PVD predicts a variety of phenomena, including implicit negative associations and behavioral orientations toward people with physical disabilities, obesity, and weak immune systems (e.g., Mortensen, Becker, Ackerman, Neuberg, & Kenrick, 2010; Park et al., 2007). Although PVD tends to positively correlate with indicators of general anxiety, health anxiety, and physical safety anxiety, it is also clearly distinct from these and similar constructs (see Duncan, Schaller, & Park, 2009, for scale development and validation information).

Results

We calculated child BMI using the Centers for Disease Control (CDC, 2010) standards, accounting for developmental trends in height and weight by age and gender. Child BMI in this sample ranged from 12.1 to 36.0 ($M = 17.97, SD = 3.95$); by CDC criteria, 17.9% of the sample was considered “overweight” or “obese,” a proportion consistent with national population estimates (CDC, 2010).²

Fat Stereotyping

Generally, parents’ fat-stereotypic views of their children—for example, regarding laziness and lack of self-control—were indeed predicted by their children’s weight, such that parents viewed their heavyweight children as possessing more fat-stereotypical traits ($\beta = .33, p = .001; r^2 = .11$).

Moreover, consistent with the general hypothesis that parents think about their heavyweight children in ways similar to how heavyweight people are viewed more generally, the observed relation between BMI and stereotyping was moderated by the same factors that moderate prejudices against heavyweight strangers—PWE and perceived PVD. First, we found that child BMI and parental PWE interacted to predict fat-stereotyping ($\beta = .22, p = .03; \text{partial } r^2 = .044$). Employing a simple slopes analytical strategy outlined by Aiken and West (1991), for parents who were higher on PWE (1 *SD* above the mean), higher child BMI was associated with fat-stereotyping

($\beta = .54, p < .001$), but for parents who were lower on PWE (1 *SD* below the mean), child BMI was not related to fat-stereotyping ($\beta = .11, p = .47$); see Figure 1. Second, we found a marginally significant interaction between child BMI and parental perceived PVD ($\beta = .23, p = .07; \text{partial } r^2 = .03$). For parents higher in PVD (1 *SD* above the mean), child BMI was associated with greater fat-stereotyping ($\beta = .28, p = .03$); for parents lower in PVD (1 *SD* below the mean), child BMI was unrelated to fat-stereotyping ($\beta = -.17, p = .42$); see Figure 1.

Although parents in this sample endorsed fat stereotypes about their heavyweight children, we wanted to explore whether factors unique to the parent–child relationship could buffer against these effects. To that end, we explored how parental identity predicted their responses to their children. However, there was no significant effect of parental identity ($p = .5$) or interaction between parental identity and child BMI predicting fat-stereotyping ($\beta = .097, p = .33$). Child BMI was just as likely to predict fat stereotypes for parents with strong parental identities as for those with weaker parental identities.

Relationship Quality

Parents reported having lower quality relationships with their heavyweight children ($\beta = -.35, p = .001; r^2 = .12$). Again, this effect was moderated by parental ideologies. First, we found a significant interaction between child BMI and parental PWE predicting parent–child relationship quality ($\beta = -.25, p = .01; \text{partial } r^2 = .06$). For parents higher in PWE (1 *SD* above the mean), child BMI predicted lower relationship quality ($\beta = -.56, p < .001$); for parents lower in PWE (1 *SD* below the mean), however, child BMI did not predict relationship quality ($\beta = -.07, p = .63$). Similarly, there was a marginally significant interaction between child BMI and parental perceived PVD ($\beta = -.24, p = .057; \text{partial } r^2 = .03$): Parents higher in PVD (1 *SD* above the mean) reported lower relationship quality ($\beta = -.38, p = .001$) with their heavyweight children, whereas for parents lower in PVD (1 *SD* below the mean), child BMI did not predict relationship quality ($\beta = -.11, p = .52$); see Figure 2. Although parental identity predicted more positive relationship quality ($\beta = .27, p < .01$), it did not moderate the relation between child BMI and parent–child relationship quality ($p = .33$).

Parental Endorsement of Fat Stereotypic Traits as a Mediator of the Relationship Between Child BMI and Parent–Child Relationship Quality. We next examined whether the relation between child BMI and parent–child relationship quality was mediated by parental endorsement of their child’s fat-stereotypic traits. Because we found evidence of moderation of the relation between child BMI and parental endorsement of fat-stereotypic traits (by parental PWE and perceived PVD), we employed moderated mediational analyses (Preacher, Rucker, & Hayes, 2007) to test this question. We conducted two sets of analyses testing parental endorsement of their child’s fat-stereotypic traits: First, we examined this as a mediator of the child BMI and parental PWE interaction and second as a mediator of the child BMI and

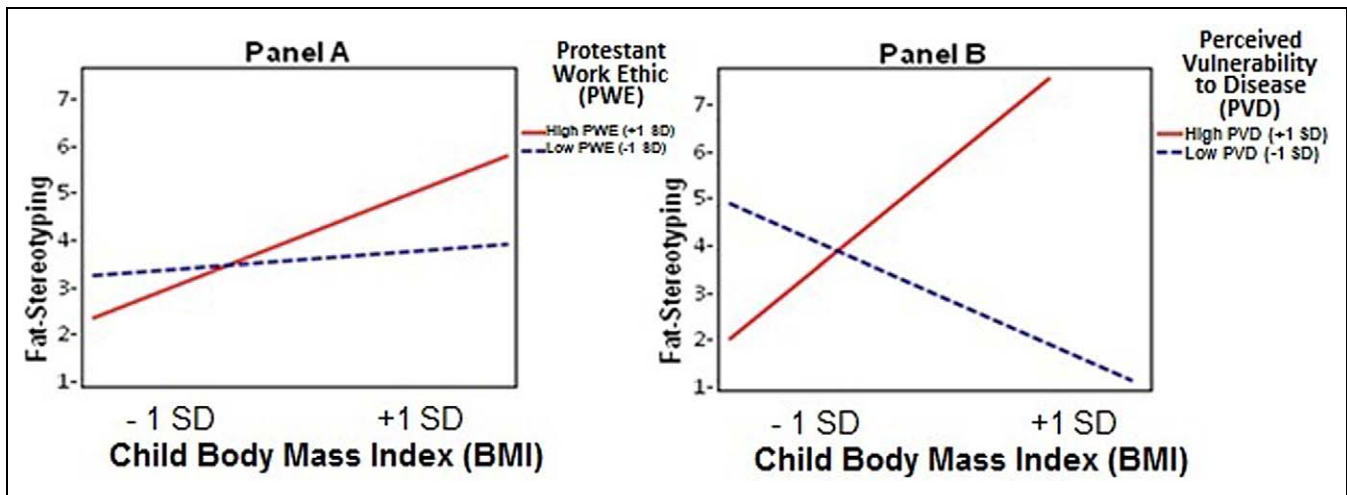


Figure 1. Parental attribution to child of fat-stereotypic traits as a function of child body mass index (BMI) and parental Protestant work ethic ideology (PWE; Panel A) and parental perceived vulnerability to disease (Panel B). Plotted low and high scores represent, respectively, scores 1 SD above and below the mean on each continuous variable.

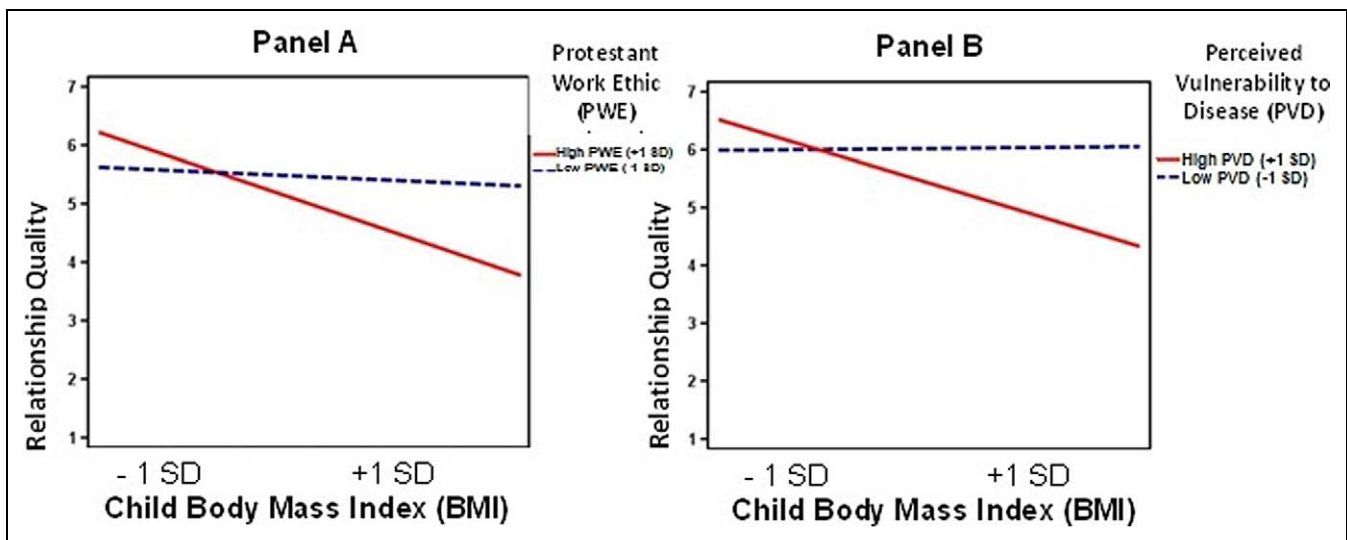


Figure 2. Parental perceptions of parent–child relationship quality as a function of child body mass index (BMI) and parental Protestant work ethic (PWE; Panel A) and parental perceived vulnerability to disease (Panel B). Plotted low and high scores represent, respectively, scores 1 SD above and below the mean on each continuous variable.

parental perceived PVD interaction. To conduct these analyses, we used the PROCESS macro developed by Hayes (2012) using the default settings specified for Model 7.

These analyses allowed us to test whether evidence of parental endorsement of fat-stereotyping as a mediator depended on parental PWE or PVD. We expected to find moderated mediation such that parental endorsement of their child’s fat-stereotypic traits would mediate the relationship between BMI and parent–child relationship quality at higher levels of PWE or PVD.

Moderated Mediation: PWE. As reported above, PWE interacted with child BMI to predict fat-stereotyping and parent–child

relationships. Including PWE and the mediator—endorsing fat-stereotypic traits of one’s child—in the model decreased the relation between child BMI and parent–child relationship to $B = -.04, p = .03$. Bootstrap results for the 95% confidence interval (CI) of the indirect effect $[-.0458, -.0113]$ did not include zero, indicating there was a significant indirect effect. As expected, the indirect effect was only significant for parents who endorsed more PWE (+1 SD; 95% CI $[-.0702, -.0230]$), but not less PWE (–1 SD; 95% CI $[-.0324, .0231]$). Results of the moderated mediation analyses thus suggest that the impaired relationship between high PWE parents and their heavyweight children may be driven, in part, by viewing one’s child as fat-stereotypic.

Moderated Mediation: Perceived PVD. As reported above, perceived PVD interacted with child BMI to predict fat-stereotyping and parent-child relationships. Including PVD and the mediator—endorsing fat-stereotypic traits of one's child—in the analysis decreased the relation between child BMI and parent-child relationship to $B = -.04$, $p = .03$. Bootstrap results for the 95% CI [$-.0476$, $-.0059$] indicated that there was a significant indirect effect. As predicted, the indirect effect was only significant for parents who endorsed more PVD ($+1$ *SD*; 95% CI [$-.0594$, $-.0118$]), but not less (-1 *SD*; 95% CI [$-.0438$, $.0143$]). Results of the moderated mediation analyses thus suggest that the impaired relationship between parents with high perceived PVD and their heavyweight children may be partially driven by viewing one's child as fat-stereotypic.

Parent-Child Activity

Child BMI did not predict parent-child activities ($p = .49$), nor did endorsing PWE or perceived PVD moderate the relation between child BMI and parent-child activities ($ps \geq .25$). However, parental identity interacted with child BMI to predict the frequency of parent-child activities ($\beta = -.23$, $p = .02$; partial $r^2 = .053$). Not surprisingly, the more participants reported that their parental status was central to their identity, the more they engaged in activities with their children ($\beta = .26$, $p = .01$). Qualifying this effect, highly identified parents (1 *SD* above the mean) engaged in more activities with their heavyweight (compared to lesser-weight) children ($\beta = .38$, $p = .005$), whereas less-identified (1 *SD* below the mean) parents exhibited no such preference ($\beta = -.096$, $p = .51$). Thus, although we did not find evidence that enhanced parental identity buffered parents against holding negative stereotypes of their heavyweight children, or against viewing relationships with their heavyweight children as being of lesser quality, it did predict engaging in a greater frequency of activities with their heavyweight children.

Note that no demographic variables (parental income, education, or race) interacted with child BMI or any of our focal variables to predict (1) parental fat-stereotyping of heavier weight children, (2) parent-child relationship quality, or (3) parent-child activity frequency (all $ps \geq .41$). Moreover, conducting our key analyses while controlling for (1) parental income, (2) parental income and education, or (3) parental income, education, and race did not change the pattern of results, and the significance levels of the previously significant simple slopes remained at $p < .05$ or better. Therefore, it is unlikely that socioeconomic status or race—variables that often covary with BMI—account for the reported effects.

Discussion

In all, parents attributed common fat stereotypes to their heavyweight children and reported having lower quality relationships with them. One might expect parents to be immune to the factors that more generally predict weight-based stereotyping of strangers: They spend much more time with their children and

have many more opportunities and a greater motivation to individuate them and overcome any weight-related stereotypes they might more typically apply to strangers. Despite such forces, however, we found evidence that parents did stereotype their heavyweight children, and they did so in ways similar to how people more generally stereotype heavyweight strangers. Our findings thus suggest that the same fat-stereotyping processes that occur outside one's family translate to parental perceptions and beliefs inside one's family. Specifically, these effects depended on parental endorsement of work ethic beliefs and disease concerns—two individual differences known to enhance the negative views that people have of heavyweight strangers (Crandall, 1994; Park et al., 2007). Moreover, as the moderated mediation analyses reveal, endorsing fat-stereotypic traits about one's heavier weight child accounts—at least in part—for poorer relationship quality with that child. Not only do these findings shed light on how ideologies can influence people's perceptions of heavier weight targets in the very unique context of parent-child relationships, but they also provide more evidence of the link between perceptions of disease vulnerability and antifat attitudes—a link that has only been demonstrated in the context of strangers (Lieberman, Tybur, & Latner, 2012; Park et al., 2007).

There are some limitations to the present research. First, the parents in our sample were predominantly White with relatively high household incomes and education. This may limit the generalizability of these findings beyond the characteristics of this sample. However, this population is more likely to endorse PWE ideologies and to have anti-fat biases (e.g., Averett & Korenman, 1999; Crandall & Martinez, 1996; Hebl & Heatherton, 1998). Thus, this sample is ideal for an initial test of the proposed hypotheses. Future research would benefit from an extension to a more diverse sample.

Second, one might argue that perhaps parents' negative stereotyping of their heavyweight children reflects the presence of a strong kernel of truth—that their heavyweight children actually are lazy and lack self-control. Our findings mitigate against this interpretation. The kernel-of-truth hypothesis would predict that the BMI/negative-stereotyping relationship should exist regardless of parental standing on matters of fat-relevant ideologies or disease vulnerabilities. Instead, the negative stereotyping (and assessments of their relationships as being of relatively low quality) existed only for those parents who endorsed PWE beliefs or concerns about their own PVD. Clearly, more than these children's actual traits shaped parents' views of them.

And finally, it is unlikely that the current findings are biased by a sample of parents who happened to care less about their children than is typical, thereby making them more susceptible to engaging in weight-based stereotyping and stigmatization. The sample consisted solely of volunteers recruited from active parent-teacher organizations who completed a time-consuming task with no direct benefit to themselves. Instead, they were motivated to complete the study because it was framed to benefit understanding of their children's health-related behaviors as well as to benefit a school-based organization that provides

resources for their children. In fact, the average score on the parental identification scale was 4.6 of 5. Thus, our sample represents a group of parents particularly invested in their own children. If anything, one would expect this level of investment to reduce the likelihood of observing any weight-based stereotyping or stigmatization effects. Note, though, that the lack of evidence of a buffering effect is not likely due to a lack of variability in the parental identity measure either, since we did find an effect of level of parental investment on the frequency of parent-child activities.

Our findings could be taken to indicate that parents treat their heavyweight children in the same stigmatizing ways that strangers treat the overweight and obese. One needs to be careful, however, not to oversimplify. The usual pattern of weight-based stigmatization would indeed include negative stereotyping, but it would also include behavioral avoidance—especially, perhaps, public avoidance. Yet, we observe no evidence of this here. Rather, parents—at least those highly invested in parenting—reported engaging more frequently in activities with their heavyweight children. Whether this enhanced level of reported parent-child activity reflects a desire to counteract the antifat stigma, a compensatory action motivated by guilt that their child is heavy, a simple attempt to increase children's activity levels to reduce their weight, or some other cause, this activity clearly suggests that the overall set of parental responses is more nuanced than the prototypical nature of antifat stigmatization. Future research might profitably explore how parental identity and other unique facets of the parenting role influence responses to heavyweight children. More generally, the question of why parent-child activity frequency exhibits a different pattern than negative stereotyping and perceived relationship quality would benefit from additional scrutiny. Furthermore, whether children actually benefit from, or perceive the quality of these interactions to be positive, remains a question.

The current research explores the experience of stereotyping from the perspective of the parent, not the child, and it suggests that endorsing fat stereotypes about one's child has negative effects on parent-child relationship quality. Future research should investigate the downstream consequences of experiencing parental stereotyping from the child's perspective. Even very young children are aware of, and model, the intergroup attitudes expressed by close people in their environment, including peers, teachers, and parents (Aboud & Amato, 2001; Sinclair, Dunn, & Lowery, 2005). Thus, it is likely that heavyweight children are aware of their parents' attitudes toward them, and this could affect them in detrimental ways (Shapiro, 2011). Some research suggests that young girls' body dissatisfaction, maladaptive eating, and own endorsement of fat stereotypes are related to the extent that they perceive messages from their parents as promoting thinness (Davison & Birch, 2004). Much of this research is retrospective, however, and does not assess how the ongoing experience of weight-based stigmatization from one's own parents relates to other mental and physical health outcomes. These issues should also receive empirical attention.

That people regularly stigmatize heavyweight strangers is commonplace and costly. That parents—even those for whom parenting is an important aspect of their personal identity—negatively stereotype their own grade-school children reveals the powerful and pernicious reach of this anti-fat psychology.

Acknowledgments

Part of this research was performed as Andreana Kenrick's honors thesis under the supervision of the second and third authors. We thank Clark Presson for serving on the committee, and Chris Crandall for his role as external examiner. We appreciate the Arizona State University Barrett Honors College for partially funding this research, and especially the officers of the parent-teacher organizations at the participating schools for providing their logistical help.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship and/or publication of this article: This study was funded by an Arizona State University Barrett Honors college thesis funding award and an, Arizona State University Psychology Department Dean's Circle Scholarship Award.

Notes

1. Subsets of items from existing scales were chosen based on psychometric properties. Full scales were reduced in the interest of minimizing the response burden for our community sample.
2. Child gender did not interact with the other focal variables for any outcomes of interest, and we thus controlled for child gender in all reported analyses.

References

- Aboud, F. E., & Amato, M. (2001). Developmental and socialization influences on intergroup bias. In S. L. Gaertner (Ed.), *Blackwell handbook of social psychology: Intergroup processes* (pp. 65-85). Oxford: Blackwell.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Allison, D. B., Basile, V. C., & Yuker, H. E. (1991). The measurement of attitudes toward and beliefs about obese persons. *International Journal of Eating Disorders, 10*, 599-607.
- Allon, N. (1982). The stigma of overweight in everyday life. In B. B. Wolam & S. DeBerry (Eds.), *Psychological aspects of obesity: A handbook* (pp. 130-174). New York, NY: Van Nostrand Reinhold.
- Aron, A., Aron, E. N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality and Social Psychology, 60*, 241-253.
- Averett, S. L., & Korenman, S. 1999. Black-White differences in social and economic consequences of obesity. *International Journal of Obesity, 23*, 166-173.
- Bonner, M. J., Hardy, K. K., Guill, A. B., McLaughlin, C., Schweitzer, H., & Carter, K. (2006). Development and validation of the parent

- experience of child illness. *Journal of Pediatric Psychology*, *31*, 310–321.
- Bryant, J. E. (1971). Parent-child relationships: Their effect on rehabilitation. *Journal of Learning Disabilities*, *4*, 325–329.
- Centers for Disease Control and Prevention. (2010). Overweight and obesity. Retrieved May 7, 2010, from <http://www.cdc.gov/nccdphp/dnpa/obesity/index.htm>
- Crandall, C. S. (1991). Do heavy-weight students have more difficulty paying for college? *Personality and Social Psychology Bulletin*, *17*, 606–611.
- Crandall, C. S. (1994). Prejudice against fat people: Ideology and self-interest. *Journal of Personality and Social Psychology*, *66*, 882–894.
- Crandall, C. S. (1995). Do parents discriminate against their heavy-weight daughters? *Personality and Social Psychology Bulletin*, *21*, 724–735.
- Crandall, C. S., & Biernat. (1990). The ideology of anti-fat attitudes. *Journal of Applied Social Psychology*, *2*, 227–243.
- Crandall, C. S., Eshleman, A., & O'Brien, L. (2002). Social norms and the expression of prejudice: The struggle for internalization. *Journal of Personality and Social Psychology*, *82*, 359–378.
- Crandall, C. S., & Martinez, R., (1996). Culture, ideology, and anti-fat attitudes. *Personality and Social Psychology Bulletin*, *22*, 1165–1176.
- Crandall, C. S., & Moriarty, D. (1995). Physical illness stigma and social rejection. *British Journal of Social Psychology*, *34*, 67–83.
- Crocker, J., Cornwell, B., & Major, B. (1993). The stigma of overweight: Affective consequences of attributional ambiguity. *Journal of Personality and Social Psychology*, *64*, 60–70.
- Davison, K. K., & Birch, L. L. (2004). Predictors of fat stereotypes among 9-year old girls and their parents. *Obesity Research*, *12*, 86–94.
- Duncan, L. A., Schaller, M., & Park, J. H. (2009). Perceived vulnerability to disease: Development and validation of a 15-item self-report instrument. *Personality and Individual Differences*, *47*, 541–546.
- Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and interpretation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 23, pp. 1–74). New York, NY: Academic Press.
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, *85*, 197–216.
- Harden, J. (2005). Uncharted waters: The experience of parents of young people with mental health problems. *Qualitative Health Research*, *15*, 207–223.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable moderation, mediation, and conditional process modeling. Retrieved July 1, 2012, from <http://www.afhayes.com/public/process2012.pdf>
- Hebl, M. R., & Heatherton, T. F. (1998). The stigma of obesity in women: The difference is black and white. *Personality and Social Psychology Bulletin*, *24*, 417–426.
- Heider, F. (1946). Attitudes and cognitive organization. *The Journal of Psychology*, *21*, 107–112.
- King, E. B., Shapiro, J. R., Hebl, M. R., Singletary, S. L., & Turner, S. (2006). The stigma of obesity in customer service: A mechanism for remediation and bottom-line consequences of interpersonal discrimination. *Journal of Applied Social Psychology*, *91*, 579–593.
- Lieberman, D. T., Tybur, J. M., & Latner, J. D. (2012). Disgust sensitivity, obesity stigma, and gender: Contamination psychology predicts weight bias for women, not men. *Obesity*, *9*, 1803–1814.
- Marshall, V., & Long, B. C. (2010). Coping processes as revealed in the stories of mothers of children with autism. *Qualitative Health Research*, *20*, 105–116.
- McBride, B. A., & Rane, T. R. (1997). Role identity, role investments, and paternal involvement: Implications for parenting programs for men. *Early Childhood Research Quarterly*, *12*, 73–197.
- McHoskey, J. (1994). Factor structure of the Protestant work ethic scale. *Personality and Individual Differences*, *17*, 49–52.
- Miller, C. T. (1998). What is lost by not losing: Losses related to body weight. In J. H. Harvey (Ed.), *Perspectives on loss: A source book* (pp. 253–267). Philadelphia, PA: Taylor & Francis.
- Milliken, P. J. (2001). Disenfranchised mothers: Caring for an adult child with schizophrenia. *Health Care for Women International*, *22*, 149–167.
- Mortensen, C. R., Becker, D. V., Ackerman, J. M., Neuberg, S. L., & Kenrick, D. T. (2010). Infection breeds reticence: The effects of disease salience on self-perceptions of personality and behavioral avoidance tendencies. *Psychological Science*, *21*, 440–447.
- Neal, D. T., Wood, W., & Quinn, J. M. (2006). Habits: A repeat performance. *Current Directions in Psychological Science*, *15*, 198–202.
- Neuberg, S. L., Kenrick, D. T., & Schaller, M. (2011). Human threat management systems: Self-protection and disease-avoidance. *Neuroscience & Biobehavioral Reviews*, *35*, 1042–1051.
- Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2007). The Implicit Association Test at age 7: A methodological and conceptual review. In J. A. Bargh (Ed.), *Automatic processes in social thinking and behavior* (pp. 265–292). New York: Psychology Press.
- Park, J. H., Faulkner, J., & Schaller, M. (2003). Evolved disease-avoidance processes and contemporary antisocial behavior: Prejudicial attitudes and avoidance of people with disabilities. *Journal of Nonverbal Behavior*, *27*, 65–87.
- Park, J. H., Schaller, M., & Crandall, C. S. (2007). Pathogen-avoidance mechanisms and the stigmatization of obese people. *Evolution and Human Behavior*, *28*, 410–414.
- Penny, H. L., & Haddock, G. (2007). Anti-fat prejudice among children: The mere proximity effect in 5-10 year olds. *Journal of Experimental Social Psychology*, *43*, 678–683.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, *42*, 185–227.
- Puhl, R. M., & Heuer, C. A. (2009). The stigma of obesity: A review and update. *Obesity*, *17*, 941–964.
- Puhl, R. M., & Latner, J. D. (2007). Stigma, obesity, and the health of the nation's children. *Psychological Bulletin*, *133*, 557–580.
- Quinn, D. M., & Crocker, J. (1999). When ideology hurts: Effects of belief in the Protestant ethic and feeling overweight on the

- psychological well-being of women. *Journal of Personality and Social Psychology*, *77*, 402–414.
- Schaller, M., & Neuberg, S. L. (2012). Danger, disease, and the nature of prejudice(s). In J. Olson & M. P. Zanna (Eds.), *Advances in experimental social psychology* (Vol. 46, pp. 1–55). Burlington, VT: Academic Press.
- Schenck, C. E., Braver, S. L., Wolchik, S. A., Saenz, D., Cookston, J. T., & Fabricius, W. V. (2009). Relations between mattering to step- and non-residential fathers and adolescent mental health. *Fathering*, *7*, 70–90.
- Schwartz, M. B., Vartanian, L. R., Nosek, B. A., & Brownell, K. D. (2006). The influence of one's own body weight on implicit and explicit anti-fat bias. *Obesity*, *14*, 440–447.
- Shapiro, J. R. (2011). Different groups, different threats: A multi-threat approach to the experience of stereotype threats. *Personality and Social Psychology Bulletin*, *37*, 464–480.
- Simon, R. W. (1992). Parental role strains, salience of parental identity and gender differences in psychological distress. *Journal of Health and Social Behavior*, *33*, 25–35.
- Sinclair, S., Dunn, L., & Lowery, B. (2005). The relationship between parental racial attitudes and children's implicit prejudice. *Journal of Experimental Social Psychology*, *41*, 283–289.
- Wood, W., Quinn, J. M., & Kashy, D. (2002). Habits in everyday life: Thought, emotion, and action. *Journal of Personality and Social Psychology*, *83*, 1281–1297.

Author Biographies

Andreana C. Kenrick is currently a PhD candidate at Princeton University, where she studies social stigma and socially-situated prejudice reduction strategies.

Jenessa R. Shapiro is an assistant professor of psychology and management at the University of California, Los Angeles, where she researches intergroup interaction and social stigma.

Steven L. Neuberg is a Foundation Professor of Psychology at Arizona State University. His research interests include social stigma and prejudice, motivated social cognition, and religion and conflict.