



# A serial mediation model testing early adversity, self-concept clarity, and thin-ideal internalization as predictors of body dissatisfaction



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## ABSTRACT

This study examined the associations among early family adversity (e.g., family violence, neglect), self-concept clarity (i.e., having a clear and coherent sense of one's own personal identity), thin-ideal internalization, and body dissatisfaction. Female university students in Australia ( $n=323$ ) and adult female community members in the United States ( $n=371$ ) completed self-report measures of the relevant constructs. In both samples, serial mediation analysis revealed that early family adversity was negatively associated with self-concept clarity, self-concept clarity was negatively associated with thin-ideal internalization, and thin-ideal internalization was positively associated with body dissatisfaction. These findings suggest that early adverse experiences might impair individuals' self-concept clarity, and that low self-concept clarity might increase the risk of internalization of the thin ideal (as a means of defining the self) and consequently body dissatisfaction. These findings also suggest possible avenues for prevention and intervention efforts.

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## Introduction

Body dissatisfaction is widespread among both women and men, and has been associated with a range of negative psychological outcomes, including low self-esteem, depression, and stress (Johnson & Wardle, 2005; Paxton, Neumark-Sztainer, Hannan, & Eisenberg, 2006). Body dissatisfaction is particularly concerning because it is one of the most consistent and robust risk factors for the development and maintenance of eating disorders (Stice, 2002). Sociocultural models suggest that internalization of societal standards of attractiveness can lead to body dissatisfaction (e.g., Cafri, Yamamiya, Brannick, & Thompson, 2005; Stice, 1994). According to these models, although most people are exposed to the same media images and social pressures that promote the thin-ideal appearance, not everyone internalizes those pressures to the same degree (Thompson & Stice, 2001). Furthermore, there is consistent evidence from correlational (e.g., Nouri, Hill, & Orrell-Valente, 2011; Vartanian & Dey, 2013) and longitudinal studies (e.g., Stice, 2001) showing that internalization of the thin ideal is associated with body dissatisfaction among women and adolescent girls. There is also evidence from experimental studies indicating that it is those

women who have internalized the societal standards to a greater degree who are most negatively impacted by exposure to thin-ideal media images (e.g., Halliwell & Dittmar, 2004).

Although there is clear evidence that internalization plays an important role in body dissatisfaction, less is known about what predicts internalization: Why do some people internalize societal standards of attractiveness whereas others do not? There are a range of individual-difference factors that might be considered risk or resilience factors in this context. For example, low self-esteem prospectively predicts the development of body dissatisfaction (e.g., Paxton, Eisenberg, & Neumark-Sztainer, 2006), and cross-sectional studies also suggest that individuals with higher self-esteem are less likely to have internalized societal standards of attractiveness (e.g., Clay, Vignoles, & Dittmar, 2005). These types of individual-difference factors (including self-esteem) have been described as *intrapersonal resources*—characteristics of the person that can buffer against the development of body dissatisfaction and disordered eating (Vartanian, Smyth, Zawadzki, Heron, & Coleman, 2014).

One intrapersonal resource that might be particularly important in the context of body dissatisfaction and internalization of the thin ideal is self-concept clarity. Self-concept clarity is defined as the extent to which individuals have a clear and coherent sense of their own personal identity, and is a component of the self that is distinct from the evaluative component (i.e., self-esteem; Campbell et al., 1996). Furthermore, self-concept clarity is thought to be

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associated with resilience and wellbeing (Campbell, 1990). For example, correlational research has shown that self-concept clarity mediates the relation between stress and wellbeing (Ritchie, Sedikides, Wildschut, Arndt, & Gidron, 2011), and a longitudinal study found that self-concept clarity predicted lower symptoms of depression at two-year follow-up (Lee-Flynn, Pomaki, DeLongis, Biesanz, & Puterman, 2011).

In the body image literature, some researchers have suggested that identity disturbance can increase the risk of internalization of society standards of attractiveness (Stice, 1994). That is, individuals who lack a clear personal identity might turn to external sources as a means of defining themselves. Given the emphasis on appearance and attractiveness in Western cultures, cultural appearance ideals can represent an external source that people can use to construct their identity. Consistent with this proposition, there are several correlational studies showing that low self-concept clarity is associated with a greater degree of thin-ideal internalization and with greater body dissatisfaction among young women (Cahill & Mussap, 2007; Vartanian, 2009; Vartanian & Dey, 2013). Vartanian (2009) further showed that self-concept clarity mediated the link between self-esteem and internalization, suggesting a unique role for self-concept clarity.

If individual differences in self-concept clarity are associated with the degree of internalization (and, in turn, with body dissatisfaction), it can also be important to ask what factors predict low self-concept clarity. In doing so, we can start to build more comprehensive models of the development of body dissatisfaction, which could inform future intervention and prevention efforts. One factor that might be particularly relevant is the quality of early life experiences. Early adverse experiences are associated with poorer psychological and physical health later in life (Felitti et al., 1998; Repetti, Taylor, & Seeman, 2002), and there is accumulating evidence that early adversity is associated with body dissatisfaction and disordered eating. Although much of this evidence comes from research on childhood sexual abuse (Rind, Tromovitch, & Bauserman, 1998), other studies have conceptualized early adversity in a broader sense (including emotional abuse, physical abuse, and adverse family environments; e.g., Kinzl, Traweger, Guenther, & Biebl, 1994; Smyth, Heron, Wonderlich, Crosby, & Thompson, 2008). In examining potential mechanisms underlying the connection between early adversity and young women's body dissatisfaction/disordered eating, Vartanian et al. (2014) found that the association between early family adversity and body dissatisfaction was mediated by lower intrapersonal resources (self-esteem and personal growth) and lower interpersonal resources (social support and gratitude). If self-concept clarity also functions as an intrapersonal resource (as we suggested above), we might similarly expect that early adversity would be associated with lower self-concept clarity and, in turn, with internalization of the thin ideal and body dissatisfaction. There is some preliminary evidence that early family adversity (Streamer & Seery, 2015) and poor parental bonding (Perry, Silvera, Neilands, Rosenvinge, & Hanssen, 2008) are associated with low self-concept clarity, but those studies have not examined these associations in the context of thin-ideal internalization and body dissatisfaction.

## The Present Study

The aim of the present study was to examine potential risk and resiliency factors related to thin-ideal internalization and body dissatisfaction. Specifically, we tested whether early family adversity would predict lower self-concept clarity, and if self-concept clarity would in turn predict thin-ideal internalization and body dissatisfaction. Our study focused on young women because body dissatisfaction is highly prevalent in that population (e.g., Neighbors & Sobal, 2007). Furthermore, past research connecting

self-concept clarity to internalization and body dissatisfaction has found consistent results for women but not for men (Cahill & Mussap, 2007; Vartanian, 2009). To increase the generalizability of our findings, however, two separate samples were included in this study: The first sample consisted of a group of female undergraduate students in Australia, and the second sample consisted of an online sample of adult female community members from the United States. Based on the findings of Vartanian et al. (2014), we hypothesized that there would be an indirect path from early adversity to body dissatisfaction through self-concept clarity. Furthermore, based on the theoretical links outlined above, we also hypothesized that there would be an indirect path from early adversity to body dissatisfaction through both self-concept clarity and thin-ideal internalization (sequentially).

## Method

### Participants

**Undergraduate sample.** Participants were 355 female undergraduate students at a large Australian university who were recruited through an online psychology participant pool and who participated in exchange for course credit. Participants were excluded if they did not complete all of the questionnaires ( $n = 8$ ) or if they failed any of the validity checks included in this study (i.e., questions asking participants to select a specific response option;  $n = 24$ ). The final sample consisted of 323 participants. Their mean age was 19.61 years ( $SD = 3.27$ ) and their mean body mass index (BMI;  $\text{kg}/\text{m}^2$ ) was 21.99 ( $SD = 3.61$ ). With respect to ethnicity, the majority identified as White (45.2%) or Asian (45.2%), with the remaining participants identifying as "Other" (9.6%).

**Community sample.** Participants were 442 women based in the United States who were recruited from Amazon's Mechanical Turk (MTurk). MTurk is an online data collection method that has been shown to produce data that are comparable in quality and reliability to those provided by student and community samples (e.g., Buhrmester, Kwang, & Gosling, 2011). Individuals who are registered with MTurk have access to a range of tasks that they can complete for small monetary incentives. They select, of their own volition, which tasks they wish to complete. As with the student sample, participants were excluded if they did not complete all of the questionnaires ( $n = 16$ ) or if they failed any of the validity checks ( $n = 55$ ). The final sample consisted of 371 participants. The mean age for the community sample was 29.75 years ( $SD = 5.79$ ) and their mean BMI was 23.46 ( $SD = 7.45$ ). With respect to ethnicity, the majority identified as White (77.4%), 7.8% identified as African American, 7.0% identified as Hispanic, 5.4% identified as Asian, and 2.4% identified as "Other".

### Measures and Procedure

All participants completed the study online as part of a larger study on personality. They completed the following measures (presented in random order).

**Early family adversity.** Early family adversity was measured using an 11-item version of the Risky Families Questionnaire (Taylor, Lerner, Sage, Lehman, & Seeman, 2004). Participants indicated the extent to which they grew up in a household characterized by family stress and dysfunction, including conflict and aggression and containing relationships that are cold, unsupportive, and neglectful (e.g., "How often would you say there was quarreling, arguing, or shouting between a parent and you?"). Each item was rated on a 5-point scale (1 = *Not at all*, 5 = *Very often*), with higher mean scores indicating more family adversity. Reliability

of the measure has been established in previous research (Repetti et al., 2002; Vartanian et al., 2014). In the present study, Cronbach's alpha was .87 for the student sample and .91 for the community sample.

**Self-concept clarity.** The Self-Concept Clarity Scale (Campbell et al., 1996) assesses the extent to which individuals have a well-defined, coherent, and stable sense of self. Sample items include “I seldom experience conflict between the different aspects of my personality” and “In general, I have a clear sense of who I am and what I am.” The scale consists of 12 items, each of which was rated on a 7-point scale (1 = *Strongly disagree*, 7 = *Strongly agree*). Higher mean scores indicate a greater degree of self-concept clarity. In previous studies with university samples, this measure has demonstrated evidence of internal consistency (e.g., Vartanian, 2009; Vartanian & Dey, 2013) and criterion validity (Campbell et al., 1996). For the current study, Cronbach's alpha was .88 for the student sample and .94 for the community sample.

**Internalization of the thin ideal.** The Internalization-General subscale of the Sociocultural Attitudes Toward Appearance Questionnaire-3 (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004) was used to assess the degree to which people endorse the thin-body ideal. This subscale consists of 9 items, each of which was rated on a 5-point scale (1 = *Definitely disagree*, 5 = *Definitely agree*). Higher mean scores indicate a greater degree of thin-ideal internalization. This subscale has demonstrated evidence of construct validity and internal consistency (Thompson et al., 2004). In the current study, Cronbach's alpha was .92 for the student sample and .96 for the community sample.

**Body dissatisfaction.** Participants completed the 9-item Body Dissatisfaction subscale of the Eating Disorder Inventory (Garner, Olmstead, & Polivy, 1983). Items were rated on a 6-point scale (1 = *Never*, 6 = *Always*), with higher mean scores indicating greater body dissatisfaction. This subscale has established evidence of criterion validity (Garner et al., 1983) and internal consistency in studies with non-clinical samples (e.g., Hund & Espelage, 2006). In the current study, Cronbach's alpha was .74 for the student sample and .80 for the community sample.

**Demographics.** Finally, participants reported their age, ethnicity, and height and weight (which were used to calculate BMI).

### Data Analysis

All analyses were conducted separately for the two samples. Prior to conducting the main analyses, data were screened for univariate and multivariate outliers. There were no multivariate outliers identified, and removing the univariate outliers had no impact on the results. Thus, the analyses below are conducted on all available data for each sample. Correlation analyses were conducted to examine the bivariate associations among the study variables. Next, we conducted a serial mediation analysis (Hayes, 2013) in which we assessed the indirect effect of early family adversity on body dissatisfaction through self-concept clarity (i.e., the  $a_1$ - $b_1$  path; Fig. 1) and through both self-concept clarity and thin-ideal internalization (i.e., the  $a_1$ - $d_{12}$ - $b_2$  path; Fig. 1). This approach uses bootstrapping, which involves repeatedly sampling from the data set with replacement (in this case, 10,000 bootstrap resamples) to create an approximation of the sampling distribution of the indirect effect and to generate confidence intervals for these effects. The indirect effect is deemed significant if the confidence interval does not cover zero. The advantage of the serial mediation model is that, whereas parallel mediation models assume that no mediator causally influences another, no such assumption is made in serial

**Table 1**

Correlations, means, and standard deviations for all variables included in the model.

	1	2	3	4	5	6
Student sample						
1. Early adversity	–					
2. Self-concept clarity	–.32***	–				
3. Thin-ideal internalization	–.002	–.19**	–			
4. Body dissatisfaction	.09	–.26***	.52***	–		
5. Age	.04	.06	–.06	.06	–	
6. BMI	.09	–.06	.21***	.53***	.25***	–
Mean	1.74	4.02	3.20	3.68	19.61	21.99
SD	0.60	1.14	0.91	0.88	3.27	3.61
Community sample						
1. Early adversity	–					
2. Self-concept clarity	–.34***	–				
3. Thin-ideal internalization	.12*	–.23***	–			
4. Body dissatisfaction	.24***	–.32***	.38***	–		
5. Age	.003	.15**	–.13*	.11*	–	
6. BMI	.18***	–.20***	–.05	.47***	.14**	–
Mean	1.97	4.81	2.93	3.67	29.75	23.46
SD	0.82	1.36	1.10	0.99	5.79	7.45

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

mediation, and we can thus test a specific theoretical sequence among the variables. To further clarify the direction of the indirect effect, we also tested an alternate model in which internalization preceded self-concept clarity. Controlling for age and BMI did not alter the results, and thus the analyses were conducted without those factors included as covariates.

## Results

### Correlational Analyses

Correlations among the variables (along with descriptive statistics) are presented in Table 1. For the student sample, early family adversity was negatively correlated with self-concept clarity, but was not associated with internalization or body dissatisfaction; self-concept clarity was negatively correlated with internalization and with body dissatisfaction; and internalization was positively correlated with body dissatisfaction.

For the community sample, early family adversity was negatively correlated with self-concept clarity, positively correlated with internalization, and positively correlated with body dissatisfaction; self-concept clarity was negatively correlated with both internalization and body dissatisfaction; and internalization was positively correlated with body dissatisfaction.

### Serial Mediation Analyses

**Student sample.** For the student sample, the overall regression model predicting body dissatisfaction from early family adversity, self-concept clarity, and internalization was significant, explaining 30% of the variance in body dissatisfaction (see top portion of Table 2). As predicted, there was a significant indirect path from early family adversity to body dissatisfaction through self-concept clarity (indirect effect coefficient = 0.07,  $SE = 0.03$ , 95% CI = 0.02, 0.14). Furthermore, the indirect path from early family adversity to body dissatisfaction through both self-concept clarity and internalization was also significant (indirect effect coefficient = 0.05,  $SE = 0.02$ , 95% CI = 0.02, 0.09). When substituting the order of the mediators so that internalization preceded self-concept clarity in the model, the indirect path was no longer significant (indirect effect coefficient = –0.002,  $SE = 0.003$ , 95% CI = –0.01, 0.01). Note that there was no significant direct path from early adversity to either internalization or body dissatisfaction, and there was also

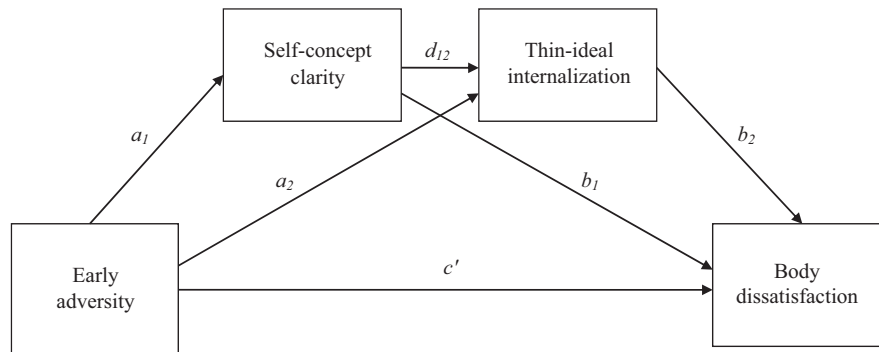


Fig. 1. Serial mediation model.

**Table 2**  
Regression coefficients and standard errors for the serial mediation model presented in Fig. 1.

Antecedent		Consequent											
		Self-concept clarity			Thin-ideal internalization			Body dissatisfaction					
		Coeff.	SE	p		Coeff.	SE	p		Coeff.	SE	p	
Early adversity	$a_1$	−0.61	0.10	<.001	$a_2$	−0.11	0.09	.22	$c'$	0.07	0.07	.34	
Self-concept clarity	–	–	–	–	$d_{12}$	−0.17	0.05	<.001	$b_1$	−0.12	0.04	.003	
Thin-ideal internalization	–	–	–	–	–	–	–	–	$b_2$	0.48	0.05	<.001	
		$R^2 = .10$				$R^2 = .05$				$R^2 = .30$			
		$F(1, 321) = 37.61,$				$F(2, 320) = 6.79, p = .001$				$F(3, 319) = 46.30,$			
		$p < .001$				$p < .001$				$p < .001$			
Early adversity	$a_1$	−0.56	0.08	<.001	$a_2$	0.07	0.07	.34	$c'$	0.16	0.06	.01	
Self-concept clarity	–	–	–	–	$d_{12}$	−0.17	0.04	<.001	$b_1$	−0.14	0.04	<.001	
Thin-ideal internalization	–	–	–	–	–	–	–	–	$b_2$	0.29	0.04	<.001	
		$R^2 = .11$				$R^2 = .05$				$R^2 = .22$			
		$F(1, 369) = 47.25,$				$F(2, 368) = 10.38,$				$F(3, 367) = 34.07,$			
		$p < .001$				$p < .001$				$p < .001$			

Note: The student sample is presented in the top portion of the table and the community sample is presented in the bottom portion of the table.

no indirect effect of early adversity on body dissatisfaction through internalization (95% CI = −0.14, 0.04).

Because there was an equal number of White and Asian participants in the student sample, we also conducted exploratory moderated mediation analyses with ethnicity as a moderator. There was no evidence of moderated mediation, suggesting that the pattern of indirect effects did not vary by ethnicity (data not shown).

**Community sample.** For the community sample, the overall regression model was also significant, explaining 22% of the variance in body dissatisfaction (see bottom portion of Table 2). As predicted, there was a significant indirect path from early family adversity to body dissatisfaction through self-concept clarity (indirect effect coefficient = 0.08,  $SE = 0.03$ , 95% CI = 0.03, 0.14). Furthermore, the indirect path from early family adversity to body dissatisfaction through both self-concept clarity and internalization was also significant (indirect effect coefficient = 0.03,  $SE = 0.01$ , 95% CI = 0.01, 0.05). When substituting the order of the mediators so that internalization preceded self-concept clarity in the model, the indirect path remained significant but the effect was weaker (indirect effect coefficient = 0.005,  $SE = 0.003$ , 95% CI = 0.001, 0.02). Note that, although there was a significant direct path from early adversity to body dissatisfaction, there was no direct path from early adversity to internalization, and no indirect path from early adversity to body dissatisfaction through internalization (95% CI = −0.02, 0.07).

## Discussion

In two different samples (female students from Australia, and adult female community members from the United States), we found that early family adversity predicted low self-concept

clarity, which in turn predicted thin-ideal internalization and body dissatisfaction. The finding that self-concept clarity predicted thin-ideal internalization is consistent with previous research, and further supports the notion that lacking a clear sense of personal identity may represent a risk factor that leads individuals to internalize the thin ideal as a means of defining themselves, which can in turn contribute to body dissatisfaction. The association between self-concept clarity and internalization has been found with a range of different samples, including adolescent boys (Humphreys & Paxton, 2004), female university students (Cahill & Mussap, 2007; Vartanian, 2009; Vartanian & Dey, 2013; the present study), male university students (Cahill & Mussap, 2007; but see Vartanian, 2009), and female community members (Vartanian, 2009; the present study). Furthermore, the student sample from the present study contained substantial numbers of Asian and White participants, and the pattern of associations did not vary by ethnicity. Together, these studies indicate that the association between self-concept clarity and internalization of societal standards of attractiveness appears to be quite robust.

The present study also extends our understanding of how early adversity may pose a broad developmental risk factor. Previous work has demonstrated that early family adversity predicted lower self-concept clarity (Perry et al., 2008; Streamer & Seery, 2015), and early adversity has also been identified as a risk factor for body dissatisfaction and disordered eating (e.g., Kinzl et al., 1994; Rind et al., 1998; Smyth et al., 2008). Recent research suggests that the association between early adversity and body dissatisfaction/disordered eating can be explained in part by the impact of early family adversity on intrapersonal resources such as self-esteem and personal growth (Vartanian et al., 2014). The present findings extend this perspective—the possibility that early family adversity may disrupt the development of resources associated with resilience—by

demonstrating that early family adversity is associated with lower self-concept clarity, which in turn predicted thin-ideal internalization and body dissatisfaction. Overall, these findings add to our understanding of how early adversity might be associated with body dissatisfaction.

It is worth noting that the indirect path from early adversity to body dissatisfaction through self-concept clarity alone was also significant in both samples, suggesting that there are additional mechanisms beyond internalization that could be involved. One possibility might be appearance-based social comparisons. Early theorizing about social comparisons suggested that individuals who lack a clear sense of self might be highly motivated to compare themselves to others (Festinger, 1954), and correlational studies have indeed found that individuals low in self-concept clarity are more likely to engage in social comparisons in general (Butzer & Kuiper, 2006). Furthermore, Vartanian and Dey (2013) found that self-concept clarity was negatively correlated with appearance-based social comparisons among young women. Thus, one way in which people might try to develop a sense of their own identity is by comparing themselves (and their appearance) to others, and these appearance comparisons can in turn increase body dissatisfaction (Groesz, Levine, & Murnen, 2002; Myers & Crowther, 2009). This alternate mechanism should be explored in future research.

The findings of the present research, along with other research in the area, have implications for alternative approaches to designing interventions aimed at reducing body image concerns. Although a number of intervention programs have reasonably focused on education around media use (e.g., Posavac, Posavac, & Weigel, 2001; Yamamiya, Cash, Melnyk, Posavac, & Posavac, 2005), it might also be useful to target individual differences such as self-concept. Interventions designed to boost self-concept clarity might have the effect of decreasing individuals' reliance on external sources as a means of defining themselves, and thus reduce their susceptibility to the negative effects of sociocultural pressures regarding attractiveness (e.g., thin-ideal internalization). Such approaches may be useful even in contexts where there are predisposing risks, such as early adversity, that are less amenable to intervention efforts (clearly prevention of early adversity remains a valuable and important goal, but one that has its own host of challenges).

The primary limitation of this work is that the cross-sectional nature of the data does not allow us to draw inferences about the causal associations among variables. Although early family adversity may be assumed to temporally precede the other variables measured in this study, and although our statistical models suggest that self-concept clarity precedes internalization, the possibility remains that there are alternate (potentially bidirectional) causal associations operating (note that, for our community sample, the model in which internalization preceded self-concept clarity was also significant). Furthermore, our measure of early adversity was based on retrospective self-reports, and retrospective reports of childhood experiences can be biased. Thus, future research using longitudinal, prospective designs with more objective measures of early adversity is needed to track the impact of early family adversity on self-concept clarity, internalization of the thin ideal, body dissatisfaction and, ultimately, disordered eating. Research with adolescents would be particularly important because this is a developmental period during which individuals begin to form their own identities, and is also a period during which internalization of the thin ideal and body dissatisfaction are likely to emerge (e.g., Sands & Wardle, 2003).

Another limitation of the present study is that the model we tested is a fairly simplistic one, and early family adversity was only moderately correlated with self-concept clarity. Thus, in order to develop a more comprehensive understanding of how early family adversity contributes to the development of body image concerns and disordered eating, future research should consider including

other individual-difference factors (both intrapersonal and interpersonal; Vartanian et al., 2014) along with self-concept clarity. Additionally, it would be useful for future research to examine the associations between early adverse experiences and self-concept clarity and known risk factors for the development of eating disorders such as dieting, perfectionism, and feelings of ineffectiveness. Finally, our sample consisted of only young women who predominantly identified as White, and we did not measure other potentially important demographic characteristics (such as socioeconomic status or level of education). Thus, it would be important to determine whether the pattern we observed in the present study holds for more diverse samples.

In conclusion, the present research contributes to our understanding of the connections among early life experiences, personal identity, and body image concerns. Early adverse experiences might impair individuals' self-concept clarity, and low self-concept clarity increases the risk of internalization (as a means of defining the self) and consequently body dissatisfaction. Along with other research in the area, these findings suggest possible expansions of models of the development of body dissatisfaction, and also suggest possible avenues for prevention and intervention efforts.

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