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Risk and resiliency factors related to body dissatisfaction and disordered eating: The identity disruption model

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Abstract

Objective: The current study examined a theoretical model (the identity disruption model) linking negative early life experiences to body dissatisfaction and disordered eating via self-concept clarity and sociocultural factors (internalization of beauty ideals and appearance comparison tendencies).

Method: 1,023 participants (52% women) completed a series of questionnaires online, including measures of negative early life experiences and childhood abuse, self-concept clarity, internalization of beauty ideals, appearance comparison tendencies, sociocultural pressure to improve one's appearance, body dissatisfaction, and disordered eating.

Results: Structural equation modeling indicated that self-reported early adversity was associated with lower self-concept clarity, which in turn was associated with greater internalization of beauty ideals and more frequent appearance comparisons. Internalization and appearance comparisons were associated with body image concerns, which in turn were associated with disordered eating and exercise behaviors. There were few sex differences in these paths.

Discussion: These findings provide initial conceptual support for the identity disruption model and extend previous models of body dissatisfaction and disordered eating to include processes that occur earlier in life. This model opens up the possibility for new interventions that are targeted toward those who are most vulnerable to developing body dissatisfaction and disordered eating.

KEYWORDS
body dissatisfaction, disordered eating, early childhood adversity, self-concept, sociocultural factors

1 | INTRODUCTION

Negative early life experiences are known risk factors for physical health and mental health problems later in life. A history of childhood abuse is associated with greater psychopathology, including disordered eating. For example, a meta-analysis by Smolak and Murnen (2002) indicated that individuals who experienced sexual abuse had higher levels of eating pathology than did individuals who had not been sexually abused, and also that individuals with eating disorders were more likely to have experienced childhood sexual abuse. Although much of the research connecting negative early life experiences to disordered eating has focused on childhood sexual abuse, 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). Prospective studies have shown that experiences with various forms of maltreatment in childhood predict the occurrence of eating disorders and disordered eating behaviors later in life (Johnson, Cohen, Kasen, & Brook, 2002). Although there is substantial evidence that negative early life experiences are a risk factor for eating disorders, less is known about the mechanisms underlying that association. In this paper, we describe and explore a conceptual model (which we call the identity disruption model) that can help to explain the connection between early adversity and body dissatisfaction and disordered eating.

The identity disruption model integrates research on personal identity with sociocultural models of eating disorders to explain how

negative early life experiences can increase the risk of body dissatisfaction and disordered eating. According to this model, early adversity can disrupt normal identity development, which in turn increases vulnerability to sociocultural risk factors (e.g., internalization of societal beauty standards; appearance-based social comparisons). This increased vulnerability may result from individuals who do not have well-formed personal identities seeking external sources to help define their sense of self (Campbell, 1990). Given the potency of appearance ideals in society, cultural ideals of attractiveness can provide an external source by which people can define themselves. Unfortunately, defining one's self in terms of one's appearance can increase the risk of body dissatisfaction and disordered eating.

Previous research has provided some preliminary support for certain aspects of this model (see Vartanian & Hayward, 2018). For example, some studies have shown that reports of negative early life experiences were associated with what might be broadly defined as disrupted identity processes, in particular lower self-concept clarity (Streamer & Seery, 2015; Vartanian, Froreich, & Smyth, 2016). Other studies have shown that such disrupted identity (i.e., low self-concept clarity) is associated with greater internalization of beauty ideals and with more frequent appearance comparisons (Cahill & Mussap, 2007; Humphreys & Paxton, 2004; Vartanian, 2009; Vartanian & Dey, 2013; Vartanian et al., 2016). Finally, disrupted identity has been shown to mediate the link between self-reported negative early life experiences and internalization (Vartanian et al., 2016), body dissatisfaction, and disordered eating (Vartanian, Smyth, Zawadzki, Heron, & Coleman, 2014).

Although there is some preliminary empirical support for the conceptual framework described above, there are also some limitations to previous research in the area. First, the studies examining negative early life experiences and identity processes have tended to use the same measure of early life experiences—the Risky Families Questionnaire (Taylor, Lerner, Sage, Lehman, & Seeman, 2004). This measure assesses perceptions of growing up in a household characterized by family stress and dysfunction, but does not assess specific forms of abuse or trauma that participants might have experienced. In contrast, most of the previous research connecting negative early life experiences to disordered eating has focused on childhood abuse. Thus, examining whether early adversity, conceptualized as both childhood abuse and general negative experiences, is related to disrupted identity in the current context is important for validating the model.

Second, those previous studies have not considered the possible influence of sociocultural pressures that have been proposed to form part of the tripartite influence model. The tripartite influence model argues that pressures from family, peers, and the media to attain cultural standards of attractiveness are associated with the development of body dissatisfaction (Keery, van den Berg, & Thompson, 2004). In the context of our identity disruption model, those individuals who have disrupted identity processes and experience extensive appearance-related pressure from others might be most susceptible to harmful body image outcomes because those individuals are more vulnerable to external sources of self-definition. Thus, sociocultural pressures may moderate the association between self-concept clarity and internalization/appearance comparisons.

Finally, the majority of studies in the area have been limited to female participants. Although the prevalence of eating disorders is higher among women than among men (Eisenberg, Nicklett, Roeder, & Kirz, 2011; Kjelsås, Bjørnstrøm, & Götestam, 2004), research with community samples tends to find smaller differences (Striegel-Moore et al., 2009), and significant proportions of both men and women experience body dissatisfaction (Fallon, Harris, & Johnson, 2014; Griffiths et al., 2016). Furthermore, with respect to the components of our model, there are also no clear gender differences. For example, the few extant studies suggest either no gender differences in self-concept clarity (Csank & Conway, 2004; Vartanian, 2009, Study 2) or a slight tendency for men to have a clearer sense of self than do women (Campbell et al., 1996; Light & Visser, 2013; Vartanian, 2009, Study 1). Even if mean differences exist on the variables in our model, the associations between variables might not differ between men and women. We addressed these questions by including both women and men in our study.

2 | THE PRESENT STUDY

The purpose of the present study was to provide a conceptual test of the Identity Disruption Model of body dissatisfaction and disordered eating (see Figure 1 for a conceptual illustration of the model). We extended previous research in a number of ways: First, we conceptualize early adversity in terms of both general negative early life experiences and specific childhood trauma experiences (e.g., sexual abuse, physical abuse, emotional abuse). Second, we include a range of disordered-eating and exercise outcomes (i.e., bingeing, purging, restrained eating, excessive exercise). Third, we tested whether sociocultural pressures (from family, peers, and the media) moderated the association between self-concept clarity and internalization/appearance comparisons. Finally, we tested approximately equal numbers of men and women in order to assess the generalizability of the model to both sexes. We predicted that reports of negative early life experiences would be associated with lower self-concept clarity; that lower self-concept clarity would be associated with greater internalization of societal beauty standards and more frequent appearance-based social comparisons; and that there would be indirect effects from early adversity to body dissatisfaction and disordered eating via self-concept clarity and internalization/appearance comparisons. Questions about moderation by sociocultural pressures, and about potential sex differences, are more exploratory.

3 | METHOD

3.1 | Participants

Participants were 1063 individuals based in the United States who were recruited through Amazon's Mechanical Turk and were paid USD $1.50 for taking part the study. Because body image issues and disordered eating are most prevalent in young adults, we limited our sample to individuals aged 18–30 years. Participants were excluded from the present study if they failed any of the validity check items (i.e., questions asking participants to select a specific response option; $n = 39$) or if they did not complete all of the questionnaires ($n = 1$). Thus, the final
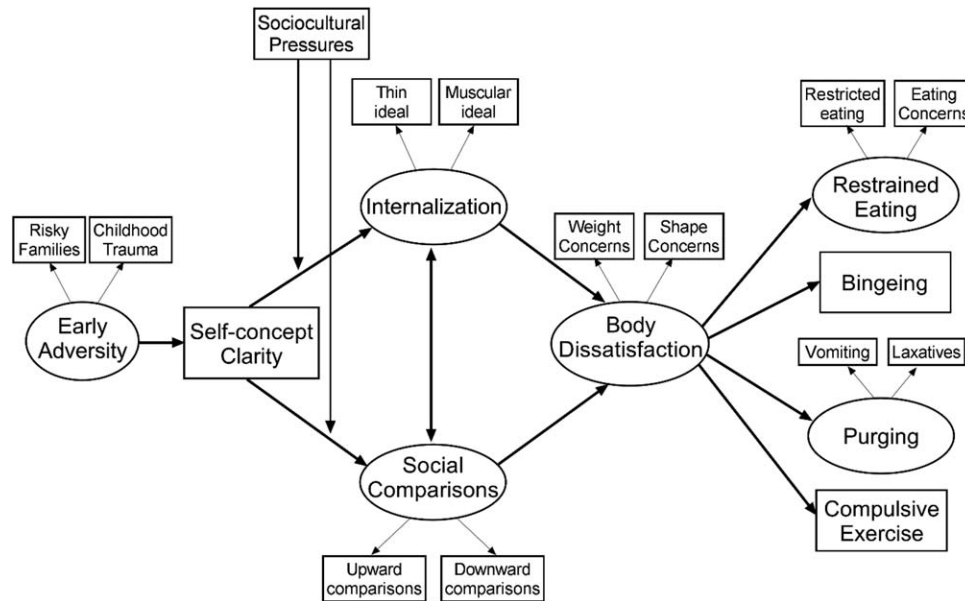
FIGURE 1 Conceptual illustration of the identity disruption model, including moderation by sociocultural pressures

sample consisted of 1023 participants (491 men, 529 women, 3 "other"). Participants' mean age was 26.33 (*SD* = 2.94) and their mean body mass index (BMI; kg/m^2) was 26.11 (*SD* = 6.55). Regarding their ethnicity, 71.4% (*n* = 730) identified as White or Caucasian, 11.3% (*n* = 116) as Black or African American, 7.4% (*n* = 76) as Hispanic or Latino/a, 6.9% (*n* = 71) as Asian, 1.1% (*n* = 11) as American Indian or Alaska Native, and 1.9% (*n* = 19) as "other" ethnicities.

3.2 | Materials and procedure

Participants signed up for a study on "personality and health". The entire study was completed online, and participants completed the following measures in random order.

3.2.1 | Early adversity

The Risky Families Questionnaire (RFQ; Taylor et al., 2004) is an 11-item scale that assesses participants' perceptions of having grown up in a household characterized by family stress and dysfunction, including conflict and aggression, cold and unsupportive relationships, and neglect. Each item (e.g., "How often would you say there was quarreling, arguing, or shouting between your parents?") was rated on a 5-point scale (0 = Not at all, 4 = Very often). Higher total scores indicate more family adversity (α = .85).

Participants also completed the 25-item Childhood Trauma Questionnaire (CTQ; Bernstein et al., 1994) as a more specific self-report measure of traumatic early life experience (including emotional abuse, physical abuse, sexual abuse, physical neglect, and emotional neglect). Each item is rated on a 5-point scale (1 = Never true, 5 = Always true), with high total scores indicating a greater reported frequency of maltreatment (α = .95).

3.2.2 | 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. The scale consists of 12 items (e.g., "In general, I have a clear sense of who I am and what I am"), each of which is rated on a 7-point scale (1 = Strongly disagree, 7 = Strongly agree). Higher mean scores indicate a greater degree of self-concept clarity (α = .94).

3.2.3 | Internalization

The two internalization subscales of the Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ-4; Schaefer et al., 2015) were used to assess internalization of the thin ideal and the muscular ideal, respectively. Each subscale consists of five items rated on a 5-point scale (1 = Definitely disagree, 5 = Definitely agree), with higher mean scores reflecting a greater degree of internalization (thin ideal, α = .84; muscular ideal, α = .92).

3.2.4 | Appearance comparisons

The Upward and Downward Appearance Comparison Scale (O'Brien et al., 2009) was used to assess participants' tendency to engage in upward appearance comparisons (e.g., "I tend to compare my own physical attractiveness to that of magazine models") and downward appearance comparisons (e.g., "At parties I often compare my looks to the looks of unattractive people"). Each item was rated on a 5-point scale (1 = Strongly disagree, 5 = Strongly agree), and items were averaged with higher scores indicating a greater tendency to engage in appearance-related comparisons (upward comparisons, α = .96; downward comparisons, α = .96).

3.2.5 | Sociocultural pressures

Participants completed the three pressure subscales of the SATAQ-4 (Schaefer et al., 2015). Each subscale assesses a different source of pressure (i.e., media, family, and peers) to improve one's appearance. Items are rated on a 5-point scale (1 = Definitely disagree, 5 = Definitely agree), with higher mean scores reflecting greater perceived sociocultural

pressure. For the purpose of the present study, we combined the three subscales to provide an overall index of perceived pressure ($\alpha = .93$).

3.2.6 | Body dissatisfaction

Participants completed the eight-item Shape Concern subscale (e.g., "How dissatisfied have you felt about your shape?") and four-item Weight Concern subscale (e.g., "How much has your weight influenced how you think or judge yourself as a person?") of the Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994). One item ("Has thinking about shape or weight made it more difficult to concentrate on things you are doing?") is proposed to load on either the Shape Concern or Weight Concern subscale; to have distinct subscales, we included it only with the Shape Concern subscale (Vartanian et al., 2014). Respondents are asked to consider the previous 28 days when responding to this questionnaire. All items were rated on a 7-point scale (0 = Not at all; 6 = Markedly), with higher mean scores indicating more body shape and weight dissatisfaction (Shape Concerns, $\alpha = .88$; Weight Concerns, $\alpha = .80$).

3.2.7 | Eating-disordered behavior

We included four indices of eating disorder behavior. These indices were all derived from the EDE-Q.

3.2.8 | Binge eating

Participants indicated how often they binged in the past 4 weeks ("How many times when you have overeaten in the past 28 days did you have a sense of having lost control over your eating?"). Participants then entered the number of times they binged. The number of reported events ranging from 0 to 50. Because this variable was positively skewed, data were log-transformed.

3.2.9 | Purging

Participants reported on the frequency of engaging in two purging behaviors to control their weight in the past four weeks: "made yourself sick (vomit)" and "taken laxatives". Although originally intended to be analyzed as continuous variables, both of these items were zero-inflated: 88.8% of participants had not vomited in the last four weeks, and 90.4% had not used laxatives. As a result, these items were recoded to dichotomous variables (0 = No; 1 = Yes).

3.2.10 | Restrained eating

Participants completed the five-item Restraint subscale (e.g., "Have you been deliberately trying to limit the amount of food you eat to influence your shape or weight?") and the five-item Eating Concern subscale (e.g., "Have you had a definite fear of losing control over eating?") of the EDE-Q. Items were rated on a seven-point scale (0 = Not at All; 6 = Markedly), with higher mean scores indicating more restricted eating and greater eating concerns (Restraint, $\alpha = .83$; Eating Concerns, $\alpha = .81$).

3.2.11 | Excessive exercise

Participants indicated how often they exercised hard in the past four weeks ("...how many times have you exercised in a 'driven' or 'compulsive' way as a means of controlling your shape or weight?"). Participants then entered the number of times they exercised. The reported number of events ranged from 0 to 100. Because this variable was positively skewed, data were log-transformed.

3.3 | Statistical analyses

Data were screened for normality and for univariate and multivariate outliers. All of the variables were normally distributed except for the behavioral/count data (as noted above). Excluding univariate and multivariate outliers from the analyses had no bearing on the results, and thus the analyses reported below include the full sample.

As a preliminary analysis, bivariate correlations were conducted among each of the variables. The main analysis involved a structural equation model in which self-reported early adversity (a latent factor reflecting both general negative early life experiences and specific abuse/trauma) predicted self-concept clarity; self-concept clarity predicted internalization (a latent factor reflecting thin ideal and muscular ideal internalization) and social comparisons (a latent factor reflecting upwards and downwards social comparisons); internalization and comparisons predicted body dissatisfaction (a latent factor reflecting weight and shape concerns); and body dissatisfaction predicted the disordered eating outcomes: binge eating, purging (a latent factor reflecting vomiting and laxative use), restrained eating (a latent factor reflecting restricted eating and eating concerns), and excessive exercise behavior (see Figure 1). The residuals of internalization and comparisons were free to covary, as were the residuals of the four disordered eating and exercise outcomes. All models were tested in AMOS (Arbuckle, 2016) with Maximum Likelihood estimation. Direct effects, indirect effects, and model fit statistics are reported. Good fit is typically indicated by: a non-significant χ^2 test (however this test is very sensitive to sample size so is almost always significant with a large sample); an RMSEA close to .06 or under and an upper 90% confidence interval (HI90) close to .08; an SRMR close to .08; and a comparative fit index and a Tucker–Lewis Index close to .95 (Hu & Bentler, 1999). Three participants (<1%) were removed from these analyses because they had missing scores on at least one variable.

To test for moderation by sociocultural pressures, the model above was revised to include sociocultural pressures (a measured variable) and the interaction between sociocultural pressures and self-concept clarity as predictors of both internalization and social comparisons. Sociocultural pressures and the interaction were free to covary with the residual of self-concept clarity. Finally, we explored whether there were any notable sex differences in the model. First, t tests were used to compare men and women on all of the study variables. Next, we conducted a multigroup structural equation model to examine whether the magnitude of the hypothesized paths in the model differed between men and women.

4 | RESULTS

4.1 | Correlational analyses

Bivariate correlations among all of the study variables are included in Table 1. Of particular note, self-reported early adversity (RFQ and CTQ) was negatively correlated with self-concept clarity, positively

TABLE 1 Bivariate correlations for all variables included in the study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. RFQ	–																
2. CTQ	.81	–															
3. SCCS	−.30	−.31	–														
4. Family	.25	.29	−.30	–													
5. Peer	.18	.24	−.33	.57	–												
6. Media	.16	.12	−.30	.40	.46	–											
7. Internalization—thin	.15	.14	−.25	.24	.34	.37	–										
8. Internalization—muscular	.09	.11	−.10	.11	.22	.09	.47	–									
9. UC	.19	.19	−.39	.27	.38	.52	.52	.33	–								
10. DC	.18	.18	−.35	.29	.33	.32	.35	.26	.47	–							
11. Shape	.32	.28	−.41	.43	.44	.52	.54	.23	.56	.38	–						
12. Weight	.27	.27	−.40	.45	.44	.51	.46	.16	.50	.36	.89	–					
13. Restraint	.25	.27	−.23	.30	.34	.29	.41	.33	.34	.28	.62	.58	–				
14. Eating	.31	.39	−.37	.42	.44	.34	.37	.26	.38	.35	.67	.62	.61	–			
15. Binge	.23	.27	−.30	.33	.32	.29	.24	.14	.31	.25	.42	.44	.33	.61	–		
16. Vomit	.25	.35	−.24	.25	.25	.12	.14	.16	.17	.18	.23	.24	.31	.43	.38	–	
17. Laxative	.28	.36	−.19	.25	.28	.13	.13	.17	.17	.20	.21	.23	.28	.40	.36	.69	–
18. Exercise	.19	.21	−.13	.19	.26	.17	.29	.34	.23	.17	.31	.28	.39	.36	.31	.34	.34

Note. CTQ = Childhood Trauma Questionnaire; DC = downward comparison; RFQ = Risky Families Questionnaire; SCCS = Self-Concept Clarity Scale; UC = upward comparison. Correlations greater than |.06| are significant at $p < .05$, and correlations greater than |.11| are significant at $p < .001$.

correlated with sociocultural variables (pressure, internalization, and appearance comparison), positively correlated with body dissatisfaction (shape and weight concerns), and positively correlated with all of the disordered eating outcomes. Self-concept clarity was negatively correlated with sociocultural pressures, internalization, appearance comparison, body dissatisfaction, and disordered eating. Sociocultural pressures, internalization, and appearance comparisons were all positively correlated with shape and weight concerns. Finally, shape and
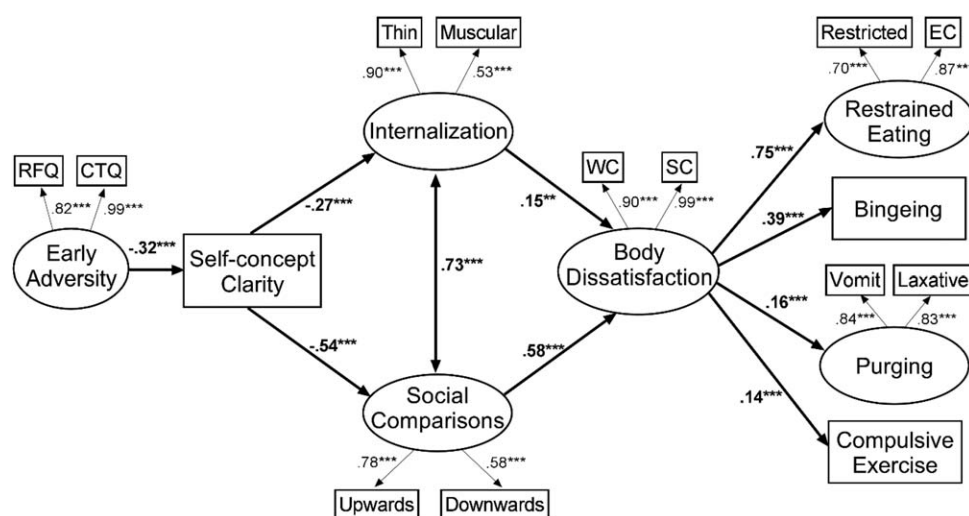

FIGURE 2 Structural equation model of early adversity predicting disordered eating and exercise outcomes. All values are standardized regression weights. For clarity, the following parts of the model are not drawn: residuals for all endogenous variables, covariances between the residuals of the four outcomes, as well as structural paths from internalization to excessive exercise, and early adversity to body concerns, restrained eating, bingeing, and excessive exercise. RFQ = Risky Families Questionnaire, CTQ = Childhood Trauma Questionnaire, WC = weight concerns, SC = shape concerns, EC = eating concerns; ***$p < .001$

TABLE 2 Standardized coefficients and 95% bias-corrected confidence intervals of indirect effects

predictor	outcome variable	indirect effect β	95% Confidence intervals	
			Lower	Upper
Early adversity	Internalization	.09*	.06	.12
	Social comparisons	.17*	.13	.22
	Body concerns	.11*	.08	.15
	Restrained eating	.18*	.13	.23
	Bingeing	.10*	.07	.13
	Purging	.04*	.03	.06
	Excessive exercise	.06*	.04	.08
Self-concept clarity	Body concerns	−.35*	−.41	−.29
	Restrained eating	−.26*	−.32	−.21
	Bingeing	−.14*	−.17	−.10
	Purging	−.06*	−.09	−.03
	Excessive exercise	−.11*	−.14	−.08
Social comparisons	Restrained eating	.43*	.33	.56
	Bingeing	.22*	.16	.30
	Purging	.10*	.05	.15
	Excessive exercise	.08*	.03	.14
Internalization	Restrained eating	.11	−.02	.20
	Bingeing	.06	−.01	.10
	Purging	.03	.00	.05
	Excessive exercise	.02	.00	.05

*95% Confidence intervals do not cross or include 0. All indirect effects reported reflect the total indirect effect of the predictor on the outcome, through all mediating variables.

weight concerns were positively correlated with the frequency of eating disordered behavior.

4.2 | Structural equation model

The initial hypothesized model did not fit the data particularly well, χ^2 (77, N = 1020) = 673.73, $p < .001$, CFI = .93, TLI = .90, RMSEA = .087 [LO90 = .081, HI90 = .093], SRMR = .10. We next examined the modification indices and, one by one, made six conceptually-justifiable structural modifications to the model (described below), resulting in a model with reasonable fit, χ^2 (71, N = 1020) = 475.26, $p < .001$, CFI = .95, TLI = .92, RMSEA = .075 [LO90 = .068, HI90 = .081], SRMR = .05. Standardized regression weights for hypothesized paths from the final model can be seen in Figure 2.

With regards to the measurement part of the model, all variables loaded strongly on to their respective latent factor (βs > .52, ps < .001). All structural paths and all covariances in the model were significant. Consistent with hypotheses, self-reported early adversity

was associated with lower self-concept clarity. Low self-concept clarity was associated with greater internalization of appearance ideals and more engagement in social comparisons. Both internalization and comparisons were associated with more body dissatisfaction. Body dissatisfaction, in turn, was associated with more restrained eating, purging, bingeing, and excessive exercise behaviors. In addition to the hypothesized paths, the following modifications were made: early adversity was directly associated with body dissatisfaction (β = .13), restrained eating (β = .22), bingeing (β = .16), purging (β = .38), and exercise (β = .13), and internalization was directly associated with exercise (β = .23), all ps < .001. The model explained 10% of the variance in self-concept clarity, 29% of the variance in social comparisons, 7% of the variance in internalization, as well as 53% of the variance in body dissatisfaction, 69% of the variance in restrained eating, 20% of the variance in both purging and binge-eating behaviors, and 14% of the variance in excessive exercise behaviour.

Indirect effects and 95% bias-corrected confidence intervals are reported in Table 2. Early adversity was indirectly associated with all eating and exercise outcomes. All other indirect effects within this model were significant except for the indirect effects from internalization to the outcome variables. Thus, early adversity was primarily associated with the outcomes through lower self-concept clarity, more frequent engagement in social comparisons, and greater body dissatisfaction.

4.3 | Moderation by sociocultural pressures

More appearance-related pressures from family, friends, and the media was associated with greater internalization (β = .39) and social comparisons (β = .60, ps < .001), but the interaction between pressures and self-concept clarity did not predict either internalization or appearance comparisons (β < |.04|, ps > .24).

4.4 | Sex differences

Table 3 shows the differences between women and men on each of the study variables. After controlling for multiple comparisons (.05/20 = .0025), the following differences emerged: Women scored higher than men on family and media pressure, thin-ideal internalization, upward and downward appearance comparisons, shape and weight concerns, and dietary restraint; men scored higher than women on muscular-ideal internalization.

Regarding the multigroup analysis, of nine hypothesized paths, four differed significantly between men and women ($\chi^2\Delta$ > 4.01, ps < .046). The following relationships were stronger for men (βs > |.27|, ps < .001) than for women (βs > |.12|, ps < .011): early adversity to self-concept clarity, and body dissatisfaction to restrained eating, bingeing, and purging. Two paths were not significant for men: the path from internalization to body dissatisfaction (β = .06, p = .556) and the path from body dissatisfaction to excessive exercise (β = .08, p = .233). These two paths were significant for women (β = .18 and .23, respectively, ps < .017), however these relationships were not significantly stronger for women than they were for men.

TABLE 3 Comparison of women and men on each of the study variables

Variable	Women (n = 529)	Men (n = 491)	t	p	d
Age	26.22 (2.90)	26.47 (2.98)	−1.36	.18	−0.09
BMI	26.00 (7.31)	26.26 (5.65)	−0.62	.53	−0.04
RFQ	14.76 (8.86)	13.53 (8.30)	2.28	.02	0.14
CTQ	45.52 (19.14)	44.87 (17.65)	0.57	.57	0.04
SCCS	4.53 (1.40)	4.78 (1.34)	−2.92	.004	−0.18
Family pressure	2.51 (1.27)	2.14 (1.07)	5.04	<.001	0.32
Peer pressure	2.26 (1.15)	2.17 (1.09)	1.21	.23	0.08
Media pressure	3.37 (1.30)	2.62 (1.28)	9.27	<.001	0.58
Internalization—thin	3.20 (0.97)	2.96 (0.95)	4.01	<.001	0.25
Internalization—muscular	2.50 (1.06)	3.01 (1.09)	−7.66	<.001	−0.47
Upward comparisons	3.20 (1.08)	2.88 (1.08)	4.69	<.001	0.30
Downward comparisons	2.65 (1.07)	2.43 (0.98)	3.42	.001	0.21
EDEQ-shape concerns	2.60 (1.72)	1.83 (1.18)	8.41	<.001	0.53
EDEQ-weight concerns	2.67 (1.82)	1.67 (1.29)	10.26	<.001	0.64
EDEQ-restraint	1.60 (1.62)	1.23 (1.29)	4.09	<.001	0.25
EDEQ-eating concerns	1.08 (1.28)	1.01 (1.04)	0.89	.37	0.06
Binge[a]	2.33 (5.32)	1.67 (4.00)	2.26	.02	0.14
Vomit[a]	0.56 (2.96)	0.50 (1.82)	0.37	.72	0.02
Laxative[a]	0.51 (2.22)	0.42 (1.65)	0.74	.46	0.05
Excessive exercise[a]	2.21 (6.51)	2.60 (5.78)	1.03	.30	−0.06

Note. BMI = body mass index; CTQ = Childhood Trauma Questionnaire; EDEQ = Eating Disorder Examination Questionnaire; RFQ = Risky Families Questionnaire; SCCS = Self-concept Clarity Scale.
[a]Scores for the behavioral items are presented in their raw form.

Indirect effects were found for self-reported early adversity and self-concept clarity on all eating and exercise outcomes among both women and men.

5 | DISCUSSION

In this paper, we outlined a theoretical model (the identity disruption model) linking negative early life experiences to body dissatisfaction and disordered eating. In support of the proposed model, we found that self-reported negative early life experiences were associated with lower self-concept clarity; lower self-concept clarity was associated with greater internalization and more frequent appearance comparisons, which in turn were associated with greater body dissatisfaction; and greater body dissatisfaction was associated with higher levels of disordered eating (bingeing, purging, excessive exercise, dietary restraint).

The association between negative early life experiences and self-concept clarity extends previous research (Streamer & Seery, 2015; Vartanian et al., 2016) by demonstrating that the association holds when early adversity is conceptualized as both specific forms of childhood abuse (e.g., sexual, physical, and emotional abuse) and general negative early life experiences (e.g., conflict in the home, emotional, and physical neglect). Thus, early adversity in the form of negative family environments and childhood trauma may disrupt the development of a clear sense of self. An interesting and important question to consider for future research is what the boundary conditions are for the kinds of early life experiences that might potentially disrupt identity and increase the risk of body dissatisfaction and disordered eating. For example, would bullying, the loss of a parent, or other forms of early life stress increase vulnerability in the context of this model? Furthermore, the variables we assessed capture frequency of early adverse experiences but do not speak to the severity of those experiences. Would a single particularly traumatic experience be more or less impactful than several less severe experiences?

Identifying identity-related processes as a potential risk factor for body image problems raises the possibility that early positive parenting programs may also protect against later body image problems. This is supported by some longitudinal evidence demonstrating that positive family experiences may improve self-concept clarity; in a study of middle adolescents, having open communication with parents (e.g., "My parents are always good listeners") predicted greater self-concept clarity over time (Van Dijk et al., 2014). In addition, identifying disrupted identity as a potential risk factor suggests an alternative group to target in early intervention (such as people low in self-concept clarity), as well as possible approaches for alternative interventions (such as boosting healthy identities). Because individuals with low self-concept clarity are thought to be vulnerable to external sources of self-definition, one possible intervention might be to present them with healthy sources of self-definition (i.e., positive social identities) and assist them in identifying important aspects of their self-concept. Notably, effective early interventions and therapy for body dissatisfaction in women promote the clarification of personal values and challenge the primacy of meeting appearance ideals, which could assist in gaining self-concept clarity (e.g., McLean, Paxton & Wertheim, 2011; Paxton, McLean, Gollings, Faulkner, & Wertheim, 2007; Stice, Butryn, Rohde, Shaw, & Marti, 2013).

In this study, we also explored the possibility that sociocultural appearance pressures would moderate the association between self-concept clarity and internalization/social comparisons; namely, that people who are low in self-concept clarity and high in sociocultural pressures would be particularly vulnerable. We did not find any evidence of moderation by sociocultural pressure. Given that beauty standards are ubiquitous and that most people are routinely exposed to reminders of societal standards of attractiveness, it is possible that such exposure is sufficient to unmask the vulnerabilities of individuals low in self-concept clarity (i.e., a main effect of self-concept clarity on internalization and social comparisons). Any additional pressures from

family, friends, and the media may do little to further exacerbate the problem (thus, no interaction with sociocultural pressures). It is also possible that we were unable to capture the nuances of such relationships because we explored this question in a sample of adults, when many identity- and appearance-related constructs have already developed. Contextual factors may play less of a role at this time. Future studies should examine the *development* of identity- and appearance-related constructs throughout adolescence, when situational variables are more likely to have an impact.

It is also noteworthy that, in the present study, we found little evidence of sex differences in the associations among variables or in the structure of the model. We did find that women scored higher than men on a number of key variables (e.g., thin-ideal internalization, shape concerns, weight concerns). However, with few exceptions, the hypothesized paths were significant for both women and men, and self-reported early adversity and self-concept clarity were indirectly associated with all four disordered eating outcomes for both women and men. Some previous studies had found significant correlations between self-concept clarity and internalization/body dissatisfaction for men, whereas other studies had found weak-to-absent effects for men. With a large sample, we found no difference between men and women in the magnitude of the relationships between self-concept clarity and internalization and social comparisons.

Although the current study provides initial support for our identity disruption model, there are some key issues that need to be addressed in future research. First, the cross-sectional nature of the data do not allow us to test the causal or temporal/developmental links among the variables in the study. Future research should test these associations longitudinally in order to identify the causal sequence and also to assess possible bi-directional relationships (e.g., whether experiencing greater body dissatisfaction also feeds back to disrupt one's sense of self). Second, the measures of early adversity were based on retrospective self-reports of childhood experiences and such retrospective measures can be biased. Thus, future research with more objective measures of early adversity is needed. Third, we have only assessed one component of "identity," which itself can be a rich and multifaceted concept (including, for example, identify confusion, identity complexity, and social identity). It would be important for future research to determine which components of identity are most impacted by negative early life experiences, and which components are most strongly linked with body dissatisfaction and disordered eating. Fourth, the MTurk sample used in the present study might not be generalizable to the population as a whole. Note, however, that previous research has found similarities in the factors that are associated with body dissatisfaction/disordered eating in MTurk samples, student samples, and community samples (Froreich, Vartanian, Zawadzki, Grisham, & Touyz, 2017; Vartanian et al., 2016). Finally, the current study focused on associations with disordered eating, but it is possible that the model described in this paper has broad applicability to a range of psychopathologies. For example, the disrupted identity arising from negative early life experiences might also increase risk for depression, anxiety, and substance use disorders.

6 | CONCLUSION

In a large sample of young women and men, we have provided initial evidence for a more comprehensive model of body dissatisfaction and disordered eating: the identity disruption model. This model integrates previous research on childhood adversity and disordered eating with sociocultural models of body dissatisfaction. Reports of adverse experiences in childhood were associated with recent disordered eating and exercise behaviors through disrupted identity processes (in the form of lower self-concept clarity), greater engagement in social comparisons and internalization of societal standards of attractiveness, and higher levels of body dissatisfaction. We extend previous models of body dissatisfaction and disordered eating to include processes that occur earlier in life, opening up the possibility for new interventions that are targeted toward those who are most vulnerable to developing body dissatisfaction and disordered eating.

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