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How might eating disorders stigmatization worsen eating disorders symptom severity?

Evaluation of a stigma internalization model

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Abstract

Objective: Eating disorders stigmatization is common and is associated with greater eating disorders symptom severity. This study sought to elucidate stigma internalization as a potential mechanism underlying this association. Two central aspects of stigma internalization were focused upon: alienation and social withdrawal.

Method: A cross-national sample of individuals with self-reported eating disorders ($N = 260$) completed measures of eating disorders stigmatization, symptom severity, alienation, and social withdrawal.

Results: The model evidenced excellent fit. Eating disorders stigmatization directly predicted both alienation and social withdrawal, which, in turn, directly predicted symptom severity. Indirect effect analyses indicated that greater eating disorders stigmatization ultimately predicted greater symptom severity via alienation and social withdrawal. Moreover, social withdrawal mediated the association of alienation with symptom severity. Fitting a direct pathway from eating disorder stigmatization to symptom severity did not improve model fit.

Discussion: Our model provides a potentially useful account of the mechanisms by which eating disorders stigmatization might worsen eating disorder symptom severity. Specifically, the stigma internalization processes of alienation and social withdrawal may be important factors linking stigmatization with symptom severity. The findings have implications for clinicians attempting to help individuals with eating disorders to monitor and modify their responses to eating disorders stigmatization.

Introduction

The frequency of stigmatization of various psychological disorders is positively associated with the symptom severity of these respective disorders (Livingston & Boyd, 2010). Consistent with these findings, studies of individuals with eating disorders have shown that increased exposure to stigmatization is positively associated with the severity of eating disorder symptoms (Griffiths et al., 2015). To date, however, quantitative analyses of the relationship of eating disorders stigmatization with symptom severity have been bi-variate in nature (Griffiths et al., 2015). While this literature suggests that stigma is associated with eating disorder symptoms, a lack of more complex analysis has precluded an understanding of how and under what conditions stigma results in symptom exacerbation. Thus, there is a need to evaluate models of *how* the experience of eating disorders stigmatization worsens symptom severity. Two mechanisms in particular may mediate this relationship, namely, alienation and social withdrawal – both of which belong to a broader mechanism called stigma internalization (Boyd, Adler, Otilingam, & Peters, 2014; Ritsher, Otilingam, & Grajales, 2003).

Stigma internalization is the process by which an external experience of stigmatization becomes part of one's internal representation of oneself (Boyd et al., 2014; Ritsher et al., 2003). For example, research shows that individuals with eating disorders are frequently told that they are silly or childish for having an eating disorder (Griffiths et al., 2015). Internalization of this stigma might entail the individual subsequently coming to believe that they are indeed silly or childish for having an eating disorder. Another example of stigma internalization would be that individual withdrawing from social interactions because they

believe other people will view them as silly or childish for having an eating disorder. Thus, stigma internalization is composed of both an affective (i.e., feelings of alienation from others) and behavioural (i.e., withdrawal from social situations) component (Boyd et al., 2014). The processes of stigma internalization are understood to be mediators in models of the impact of stigmatization on psychological disorder symptom severity (Vogel, Bitman, Hammer, & Wade, 2013).

Our model, shown in Figure 1, proposes that increased exposure to eating disorders stigmatization leads to increases in both the feelings of alienation and social withdrawal aspects of stigma internalization. In turn, alienation and social withdrawal lead to increased eating disorders symptom severity. Further, we propose that increased alienation predicts increased social withdrawal, such that social withdrawal mediates the association of alienation with eating disorder symptom severity.

Elaborating further, it is theorised that the experience of eating disorders stigmatization causes an individual to feel that they are a 'less than full' member of society (i.e., alienated). In turn, feeling alienated causes social withdrawal by increasing social anxiety and reducing the quality (perceived and/or actual) of social experiences (Ritsher et al., 2003). Here, the central positioning of social withdrawal in the model reflects both theory and empirical findings suggesting that social withdrawal is a key variable that worsens eating disorder symptom severity (Etkin, Bowker, & Scalco, 2016; Rieger et al. 2010; Treasure & Schmidt, 2013). Because social withdrawal is the behavioural consequence of feeling alienated from others, the impact of alienation on symptom severity must flow, in part, through its impact on social withdrawal (Ritsher et al. 2003). In turn, social withdrawal is theorized to worsen

symptom severity by causing a decrease in the provision of coping resources (both physical and emotional) and an increase in the frequency and severity of negative affect (Leonidas and Santos, 2014). Elaborating further, social withdrawal may cause an individual to rely less upon their dwindling social resources and more upon maladaptive coping strategies, including dietary restriction, binge eating, and/or purging (Leonidas and Santos; Rieger et al. 2010). Moreover, negative affect is a known maintaining factor of eating disorders, and thus, an increase in negative affect due to social withdrawal will exacerbate symptom severity (Fairburn, Cooper, & Shafran, 2003). Finally, because alienation is itself a form of negative affect, it is theorized that feelings of alienation will directly exacerbate symptom severity (Fairburn, Cooper, & Shafran, 2003).

We evaluated a model explaining how eating disorders stigmatization might worsen eating disorders symptom severity via the stigma internalization processes of alienation and social withdrawal. We hypothesized that i) eating disorders stigmatization would ultimately predict symptom severity via alienation and social withdrawal; and that ii) the association of alienation with symptom severity would be mediated by social withdrawal.

Method

Procedure

Electronic advertisements soliciting individuals who were “currently diagnosed with an eating disorder” were disseminated via eating disorders charities and organisations located predominantly in Australia, the United States (US), and the United Kingdom (UK). Participants completed a self-report online questionnaire with a counterbalanced order-of-

presentation. The study procedure was approved by the Behavioural and Social Sciences Human Ethics Sub-Committee at the University of Melbourne.

Participants

Participants were 260 individuals with self-reported anorexia nervosa (46.9%), OSFED or EDNOS (24.6%), bulimia nervosa (18.9%), or binge eating disorder (5.7%). All participants confirmed that their diagnoses were explicitly given to them by a healthcare professional. Participants' symptom data (as measured by the Eating Disorders Examination – Questionnaire; EDE-Q; Fairburn & Beglin, 1994) were consistent with their self-reported eating disorder diagnoses (see Supplementary Table A) and approximated published clinical norms (Smith et al., 2017).

Demographic characteristics

Participants ($M_{\text{age}} = 27.23$ years, $SD_{\text{age}} = 8.15$) were predominantly female (93.4%), White (93.4%), heterosexual/straight (76.3%), University educated (73.8%), employed (53.1%), and living in Australia (51.5%), the US (18.5%), or the UK (11.5%). Participants were equally likely to be single (46.5%) or in-a-relationship (47.8%).

Measures

Eating disorder symptoms. We used the Global score of the EDE-Q to measure eating disorder symptoms. Response options were anchored at zero (“no days” / “not at all”) and six (“every day” / “markedly”). Psychometric properties of the EDE-Q are satisfactory (Peterson et al., 2007).

Eating disorders stigmatization. We used the Discrimination Exposure subscale of the Internalised Stigma of Mental Illness scale (ISMI; Ritsher et al., 2003), modified and

validated for use in a previous (independent) sample of individuals with eating disorders (Griffiths et al., 2016), to measure eating disorders stigmatization. Example items include “People discriminate against me because I have an eating disorder” and “People often patronize me, or treat me like a child, just because I have an eating disorder”. The response scale is anchored at one (“strongly disagree”) and four (“strongly agree”). Higher scores indicate greater stigmatization.

Alienation. We used the Alienation subscale of the modified ISMI to measure participants’ feelings of being a ‘less than full’ member of society due to their eating disorder. Example items include “I feel inferior to others who don’t have an eating disorder” and “I feel out of place in the world because I have an eating disorder”. Higher scores indicate greater alienation.

Social withdrawal. We used the Social Withdrawal subscale of the modified ISMI to measure participants’ social withdrawal due to their eating disorder. Example items include “I stay away from social situations in order to protect my friends and family from embarrassment”, and “I don’t talk about myself much because I don’t want to burden others with my eating disorder”. Higher scores indicate greater social withdrawal.

Statistical analyses

First, we calculated descriptive statistics and conducted Pearson correlations for the model variables. Second, we evaluated our model using a maximum likelihood estimator. Indirect effects were estimated using bootstrapped confidence intervals (10,000 resamples). We used Hu and Bentler’s (1999) thresholds to gauge adequate fit: a non-significant χ^2 test, RMSEA < .08, CFI > .95, TLI > .95, and SRMR < .08. Missing data were estimated using

full information maximum likelihood; however, very little data were missing (0.22% of overall item-level data). Our sample size offered inadequate statistical power to examine the model for participants with specific eating disorder diagnostic subtypes (e.g., for only those participants with anorexia nervosa).

Results

Descriptive statistics, Cronbach's alphas, and inter-correlations for the model variables are shown in Table 1. Fit indices indicated excellent fit: we observed a non-significant χ^2 test ($\chi^2 = 0.01$, $df = 1$, $p = .713$), favourable CFI (1.000), TLI (1.019), and SRMR (0.004) statistics, and a favourable RMSEA statistic (0.000, 90% confidence interval [CI] = [0.000, 0.119]) with a high probability of close fit (p RMSEA $< .05 = .789$). As shown in Figure 1, all paths were significant ($ps < .001$). Increased exposure to eating disorders stigmatization predicted increased social withdrawal and increased alienation. In turn, increased alienation predicted increased social withdrawal. Finally, increased social withdrawal and increased alienation predicted greater symptom severity. We observed a significant total indirect effect of eating disorders stigmatization on eating disorder symptom severity via alienation and social withdrawal, $\beta = .26$, 95% CI = .18, .34. Moreover, we observed a specific significant indirect effect of alienation on symptom severity via social withdrawal; $\beta = .11$, 95% CI = .06, .17. Fitting a direct path from eating disorders stigmatization to symptom severity did not significantly improve model fit ($\Delta\chi^2 < .01$, $p > .05$). The model explained 25% of the variance in eating disorder symptoms ($p < .001$).

Discussion

We evaluated a model explaining how exposure to eating disorders stigmatization might worsen eating disorder symptom severity. Our findings supported our study hypotheses. Greater eating disorders stigmatization ultimately predicted greater eating disorder symptom severity via intermediary increases in both alienation and social withdrawal. Moreover, social withdrawal mediated the association of alienation with eating disorder symptom severity. Thus, our model provides a potentially useful account of the mechanisms by which eating disorders stigmatization worsens eating disorder symptom severity.

Our findings suggest that the stigma internalization processes of alienation and social withdrawal may be important factors linking eating disorders stigmatization with symptom severity. The effects of social withdrawal on symptom severity, including both directly and as a mediator of the effect of alienation, corroborates previous research suggesting that social withdrawal is a key variable that may compound the severity of eating disorders (Treasure & Schmidt, 2013). Specifically, increased feelings of alienation caused by eating disorder stigmatization may compel an individual to gradually withdraw from the social support structures that guard against deteriorations in their eating disorder.

In addition, the findings suggest that destigmatization efforts may be improved by targeting stigma internalization processes. For example, stigma researchers have suggested that therapists and anti-stigma initiatives try to build “stigma resistance” in individuals with psychological disorders (Firmin et al., 2016; Griffiths et al., 2014). An intervention to build stigma resistance may, for example, target feelings of alienation and re-frame these into feelings of injustice, with a view to ‘pushing back’ against the source of the stigmatization.

To this end, studies of stigma resistance have shown promise, including for individuals with eating disorders (Firmin et al., 2016; Griffiths et al., 2014). Combining such interventions with behavioural activation to reduce social withdrawal may add value to these efforts.

Limitations of the study are noteworthy. First, our study was cross-sectional; thus, we could not test the directionality of our hypotheses. Relatedly, it could be argued that increases in eating disorder symptoms may elicit both social withdrawal (insofar as the individual becomes increasingly focused on eating, shape, and weight) and eating disorder stigmatization (insofar as this withdrawal reinforces others' negative perceptions of the individual and/or results in a failure to disconfirm others' negative perceptions). Second, participants' eating disorder diagnoses were self-reported, although we note that participants' symptom profiles matched their self-report diagnoses and approximated (and somewhat exceeded) published clinical norms (Smith et al., 2017). Nevertheless, it is possible that our study methodology may have under-estimated participants' true level of eating disorder symptoms (Mond et al., 2014) or over-represented highly symptomatic individuals. Third, our modest sample size precluded an analysis of our model for individuals with specific eating disorder subtypes.

In conclusion, we evaluated a model of how eating disorders stigmatization might worsen eating disorders symptom severity by focusing on stigma internalization processes; namely, alienation and social withdrawal. Our findings suggest that the model provides a potentially useful account of the mechanisms by which eating disorders stigmatization exacerbates eating disorder symptom severity. Our findings also suggest that alienation and

social withdrawal are potentially important targets for clinician-led initiatives to cultivate resistance to eating disorders stigmatization.

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References

- Boyd, J. E., Adler, E. P., Otilingam, P. G., & Peters, T. (2014). Internalized Stigma of Mental Illness (ISMI) Scale: A multinational review. *Comprehensive Psychiatry*, *55*, 221–231. <http://doi.org/10.1016/j.comppsy.2013.06.005>
- Crisp, A. (2005). Stigmatization of and discrimination against people with eating disorders including a report of two nationwide surveys. *European Eating Disorders Review*, *13*, 147–152. <http://doi.org/10.1002/erv.648>
- Etkin, R. G., Bowker, J. C., & Scalco, M. D. (2016). Associations between subtypes of social withdrawal and emotional eating during emerging adulthood. *Personality and Individual Differences*, *97*, 239–244. <http://doi.org/10.1016/j.paid.2016.03.059>
- Fairburn, C. G., Cooper, Z., & Shafran, R. (2003). Cognitive behaviour therapy for eating disorders: a “transdiagnostic” theory and treatment. *Behaviour Research and Therapy*, *41*, 509–528. [http://doi.org/10.1016/S0005-7967\(02\)00088-8](http://doi.org/10.1016/S0005-7967(02)00088-8)
- Fairburn, C., & Beglin, S. (1994). Assessment of eating disorders: Interview or self-report questionnaire? *International Journal of Eating Disorders*, *16*, 363–370. [http://doi.org/10.1002/1098-108X\(199412\)16:4<363::AID-EAT2260160405>3.0.CO;2](http://doi.org/10.1002/1098-108X(199412)16:4<363::AID-EAT2260160405>3.0.CO;2)
- Firmin, R. L., Luther, L., Lysaker, P. H., Minor, K. S., & Salyers, M. P. (2016). Stigma resistance is positively associated with psychiatric and psychosocial outcomes: A meta-analysis. *Schizophrenia Research*, *175*, 118–128. <http://doi.org/10.1016/j.schres.2016.03.008>
- Griffiths, S., Costa, D. S. J., Boyd, J. E., Murray, S. B., Mitchison, D., & Mond, J. M. (2016). Facilitating research on eating disorders stigma: validation of the internalised stigma of

mental illness scale for use in people with eating disorders. *Advances in Eating Disorders: Theory, Research and Practice*, 4, 293–308.

<http://doi.org/10.1080/21662630.2016.1202125>

Griffiths, S., Mond, J. M., Murray, S. B., & Touyz, S. (2015). The prevalence and adverse associations of stigmatization in people with eating disorders. *International Journal of Eating Disorders*, 48, 767–774. <http://doi.org/10.1002/eat.22353>

Griffiths, S., Mond, J. M., Murray, S. B., Thornton, C., & Touyz, S. (2014). Stigma resistance in eating disorders. *Social Psychiatry and Psychiatric Epidemiology*, 50, 279–287. <http://doi.org/10.1007/s00127-014-0923-z>

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: a Multidisciplinary Journal*, 6, 1–55. <http://doi.org/10.1080/10705519909540118>

Leonidas, C., & Santos, M. (2014). Social support networks and eating disorders: an integrative review of the literature. *Neuropsychiatric Disease and Treatment*, 10, 915–927. <http://doi.org/10.2147/NDT.S60735>

Livingston, J. D., & Boyd, J. E. (2010). Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis. *Social Science & Medicine*, 71, 2150–2161. <http://doi.org/10.1016/j.socscimed.2010.09.030>

Mond, J. M., Hay, P. J., Rodgers, B., Owen, C., & P. J. V., Beumont. Validity of the Eating Disorder Examination Questionnaire (EDE-Q) in screening for eating disorders in community samples. *Behaviour Research and Therapy*, 42, 551-567. doi:10.1016/S0005-7967(03)00161-X

- Peterson, C. B., Crosby, R. D., Wonderlich, S. A., Joiner, T., Crow, S. J., Mitchell, J. E., et al. (2007). Psychometric properties of the eating disorder examination-questionnaire: Factor structure and internal consistency. *International Journal of Eating Disorders, 40*, 386–389. <http://doi.org/10.1002/eat.20373>
- Rieger, E., Van Buren, D. J., Bishop, M., Tanofsky-Kraff, M., Welch, R., & Wilfley, D. E. (2010). An eating disorder-specific model of interpersonal psychotherapy (IPT-ED): Causal pathways and treatment implications. *Clinical Psychology Review, 30*, 400-410. [10.1016/j.cpr.2010.02.001](https://doi.org/10.1016/j.cpr.2010.02.001)
- Ritsher, J. B., Otilingam, P. G., & Grajales, M. (2003). Internalized stigma of mental illness: psychometric properties of a new measure. *Psychiatry Research, 121*, 31–49. <http://doi.org/10.1016/j.psychres.2003.08.008>
- Smith, K. E., Mason, T. B., Murray, S. B., Griffiths, S., Leonard, R. C., Wetterneck, C. T., et al. (2017). Male clinical norms and sex differences on the Eating Disorder Inventory (EDI) and Eating Disorder Examination Questionnaire (EDE-Q). *International Journal of Eating Disorders, 13*, 305. <http://doi.org/10.1002/eat.22716>
- Treasure, J., & Schmidt, U. (2013). The cognitive-interpersonal maintenance model of anorexia nervosa revisited: a summary of the evidence for cognitive, socio-emotional and interpersonal predisposing and perpetuating factors. *Journal of Eating Disorders, 1*, 13. <http://doi.org/10.1186/2050-2974-1-13>
- Vogel, D. L., Bitman, R. L., Hammer, J. H., & Wade, N. G. (2013). Is stigma internalized? The longitudinal impact of public stigma on self-stigma. *Journal of Counseling Psychology, 60*, 311–316. <http://doi.org/10.1037/a0031889>

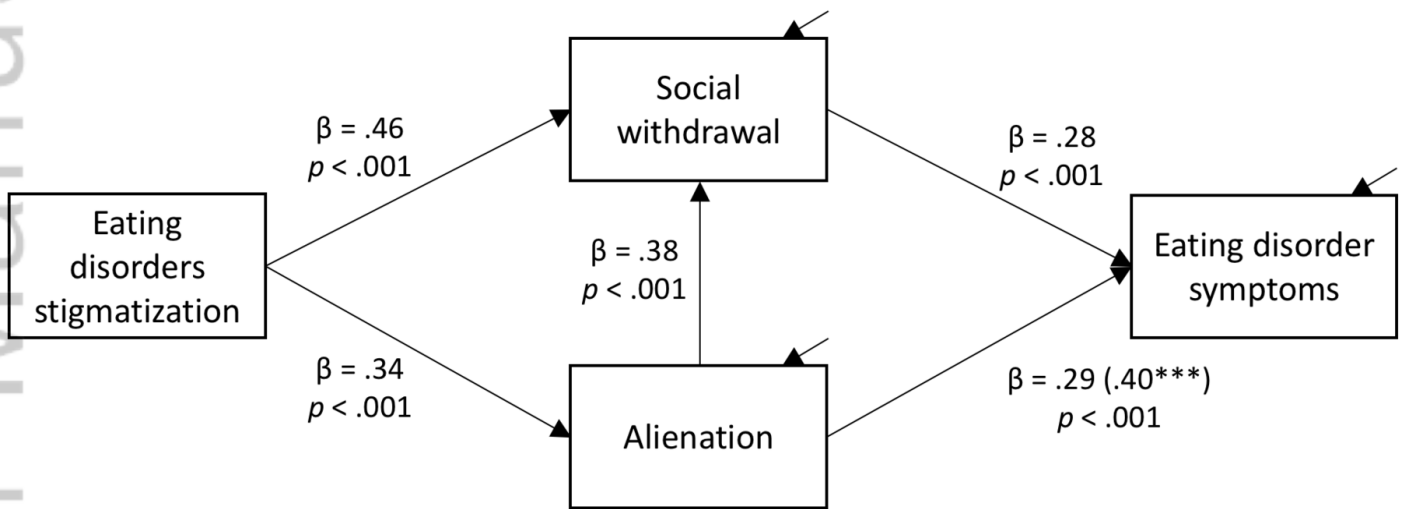


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STIGMA AND EATING DISORDERS

Supplementary Table A. Eating disorder symptom data for the full sample and for the sample stratified by eating disorder subtype.

Variable	Full sample			Sample stratified by eating disorder subtype											
				Anorexia nervosa			Bulimia nervosa			OSFED or EDNOS			Binge eating disorder		
	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>M</i>	<i>SD</i>	<i>Mdn</i>	<i>M</i>	<i>SD</i>	<i>Mdn</i>
Body Mass Index	22.15	6.91	20.20	18.64	4.52	18.33	24.47	4.25	23.18	23.24	5.17	21.78	34.54	6.75	33.89
EDE-Q Global score	4.42	1.17	4.77	4.39	1.20	4.80	4.55	1.21	4.84	4.67	0.93	4.86	4.32	0.81	4.61
EDE-Q Dietary restraint	3.86	1.66	4.20	4.08	1.52	4.20	3.88	1.64	4.10	3.92	1.64	4.70	2.76	1.62	2.90
EDE-Q Eating concerns	3.86	1.37	4.00	3.60	0.53	3.80	4.15	1.50	4.40	3.98	1.16	4.00	3.81	1.44	4.20
EDE-Q Shape concerns	4.97	1.24	5.38	4.89	1.32	5.45	5.04	1.20	5.50	5.37	0.83	5.56	5.10	0.65	5.19
EDE-Q Weight concerns	4.66	1.37	5.00	4.57	1.41	5.00	4.80	1.40	5.20	4.98	1.04	5.30	4.99	0.81	5.10
EDE-Q Objective binges	4.11	7.36	0.00	2.80	7.58	0.00	14.58	11.97	10.00	5.66	6.59	2.50	14.44	11.44	12.00
EDE-Q Subjective binges	3.82	7.07	0.00	8.00	7.21	10.00	13.47	11.42	10.00	5.80	7.39	2.50	10.11	8.53	9.00
EDE-Q Self-induced vomiting	4.09	15.93	0.00	5.30	15.90	0.00	17.70	23.27	15.00	3.54	6.49	0.00	0.94	3.77	0.00
EDE-Q Laxative use	1.00	3.65	0.00	2.15	7.37	0.00	0.89	2.16	0.00	2.36	4.28	0.00	0.00	0.00	0.00
EDE-Q Compulsive exercise	6.14	9.06	0.00	9.88	10.47	5.00	4.88	7.87	0.00	9.92	10.13	8.50	0.89	2.56	0.00

Notes:

EDE-Q: Eating Disorders Examination – Questionnaire (Fairburn & Beglin, 1994)

OSFED: Other Specified Feeding or Eating Disorder

EDNOS: Eating Disorder Not Otherwise Specified

M: mean

SD: standard deviation

Mdn: median

STIGMA AND EATING DISORDERS

Table 1. Descriptive statistics and Pearson correlation coefficients for the variables included in the path model.

Variable	<i>M</i>	<i>SD</i>	<i>Mdn</i>	Cronbach's α	1.	2.	3.	4.
1. Eating disorders stigmatisation	2.19	0.74	2.20	.85	–	.34*	.59*	.25*
2. Alienation	3.12	0.57	3.17	.77		–	.53*	.44*
3. Social withdrawal	2.65	0.68	2.67	.82			–	.43*
4. Eating disorder symptoms	4.42	1.17	4.77	.93				–

Notes:

M: mean

SD: standard deviation

Mdn: median

*: $p < .001$