


ORIGINAL ARTICLE

The COVID-19 pandemic: Psychological and behavioral responses to the shutdown of the beauty industry

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Abstract

Objective: During the COVID-19 pandemic, Australia implemented widespread closure of beauty and cosmetic services to control the virus spread. The effect of these restrictions is unknown, given that beauty services are widely used for stress relief or to enhance confidence. The current study explored the relationship between engagement in appearance-focused behaviors and distress regarding beauty service closure. Participants with high and low levels of dysmorphic concern were compared to determine whether COVID-19 restrictions may affect these groups differently.

Method: An online survey was completed by 216 participants living in Australia. Questions addressed engagement in appearance-focused behaviors during the COVID-19 pandemic and attitudes toward beauty service closure. The Dysmorphic Concern Questionnaire (DCQ) was used to group participants by low and high dysmorphic concern.

Results: Appearance-focused behaviors decreased in the low DCQ group ($n = 163$) during the COVID-19 pandemic, while such behaviors in the high DCQ group ($n = 53$) remained unchanged. Individuals who were living alone, younger, reported higher dysmorphic concern and greater distress over beauty service closure engaged in more frequent appearance-focused behaviors ($R^2 = .57, p < .001$). The high DCQ group reported greater distress over beauty service closure and increased desire to obtain future beauty treatments.

Discussion: While COVID-19 restrictions may have provided a break from societal appearance pressure for those with low dysmorphic concern, appearance-focused behaviors persisted in individuals with high dysmorphic concern. A greater understanding of the long-term impacts on appearance-related distress is needed to determine mental health priorities emerging from the COVID-19 pandemic.

KEYWORDS

appearance, body dysmorphic disorder, body image, Coronavirus, cosmetic surgery, cosmetic treatment, COVID-19, dysmorphic concern, mental health

1 | INTRODUCTION

In response to the global coronavirus (COVID-19) pandemic, many countries implemented preventative measures to slow the spread of the virus. In Australia, the federal government encouraged the public

to “stay at home” and directed widespread closure of businesses and services, including most elective procedures and beauty treatments. These included nail salons, hair removal services, nonsurgical cosmetic clinics (i.e., providing anti-wrinkle injections, skin treatments, etc.), and major cosmetic surgeries conducted for aesthetic purposes.

Hairdressers continued to operate, but restrictions were imposed, which prevented many from accessing their services.

Many individuals rely on regular beauty treatments to boost self-esteem, body confidence, and reduce stress. This has been noted for nail, hair, and facial treatments (Back & Chang, 2012; Paulson, 2008), as well as nonsurgical and surgical cosmetic procedures (Castle, Honigman, & Phillips, 2002; Margraf, Meyer, & Lavalley, 2013; Oates & Sharp, 2017; Sharp & Oates, 2019). As such, the rapid closure of beauty services due to COVID-19 restrictions could have negative impacts for regular beauty service users who may have lost their usual coping mechanisms in a time of increased pandemic-related stress (Tan et al., 2020).

The potential impact of the closure of beauty services could be worse for individuals with “*dysmorphic concern*,” a preoccupation with a perceived defect in physical appearance (Oosthuizen, Lambert, & Castle, 1998). This commonly occurs in body image disorders, such as eating disorders and body dysmorphic disorder (BDD), where individuals may overestimate their body weight or size, or the extent of a flaw in their appearance (Beilharz et al., 2019; Phillipou et al., 2016; Schieber, Kollei, de Zwaan, & Martin, 2018). For these individuals, the seeking of beauty treatments can act as a safety behavior, which assists in relieving appearance-related anxiety in the short-term but may perpetuate an excessive focus on appearance in the long-term (Wilhelm, Phillips, & Steketee, 2013). While most of the general public are classed as having low dysmorphic concern (i.e., expressing normative discontent with appearance), around 20% display moderate dysmorphic concern, and clinically significant dysmorphic concern occurs in 4–7% of individuals (Schieber et al., 2018). A higher prevalence of clinical dysmorphic concern has been noted in beauty and cosmetic settings (10–15%; Veale, Gledhill, Christodoulou, & Hodsoll, 2016), and most (65–95%) in the clinical range meet criteria for an eating disorder or BDD (Beilharz et al., 2019; Mancuso, Knoesen, & Castle, 2010).

Individuals with BDD in particular seek out cosmetic and beauty procedures at higher rates than the general population (Bowyer, Krebs, Mataix-Cols, Veale, & Monzani, 2016; Veale et al., 2016). Occasionally, they are refused cosmetic procedures due to concerns that BDD may be a contraindication for treatment (Crerand, Menard, & Phillips, 2010). In these cases, worrying outcomes have been reported, such as increased distress, “doctor-shopping” to seek cosmetic treatment from alternative providers or attempts to self-administer beauty and cosmetic procedures without appropriate training (Crerand et al., 2010; Sarwer & Crerand, 2008; Veale, 2000). As such, the sudden closure of beauty services due to COVID-19 could have harmful effects for individuals with high dysmorphic concern, who might seek alternative measures to correct their appearance.

Beyond beauty treatments, many engage in other appearance-focused behaviors to enhance their attractiveness, adhere to social norms, relieve stress, or reduce body dissatisfaction (Trekels & Eggermont, 2017; Veale, 2004). Behaviors are idiosyncratic but commonly include grooming, mirror-checking, camouflaging appearance, appearance comparisons, or seeking reassurance (Phillips, Menard, Fay, & Weisberg, 2005; Veale, 2004). While occasional or brief

engagement in appearance-focused behaviors is common in the general public, those with body image disorders often engage in these behaviors more frequently and at times, compulsively to relieve appearance-related distress (Linardon, Fuller-Tyszkiewicz, de la Piedad Garcia, Messer, & Brennan, 2019; Veale, 2004).

The potential impact of the COVID-19 pandemic on engagement in appearance-focused behaviors is unknown. Many report increased frequency of appearance behaviors (such as grooming, applying make-up, or mirror-checking) prior to leaving the house (Oakes, Collison, & Milne-Home, 2017), and thus these behaviors may be decreased by COVID-19 restrictions. However, when placed under stress, individuals may turn to familiar patterns of safety behaviors to relieve negative emotions (Neziroglu, Khemlani-Patel, & Veale, 2008; Radix, Rinck, Becker, & Legenbauer, 2019). This has already been documented in individuals with eating disorders, who have reported increased engagement in dietary restriction, exercise, binge eating, and purging relative to before the pandemic (Phillipou et al., 2020). However, the effect of COVID-19 restrictions on nonweight or shape-related appearance behaviors is yet to be studied.

The overarching aim of the current research was to explore the relationship between the closure of beauty services, appearance-focused behaviors, and dysmorphic concern in an Australian population, given that Australians are among the highest spenders on beauty treatments per capita (Cosmetic Physician's College of Australasia, 2016). Specifically, we were seeking a greater understanding of whether appearance-focused behaviors changed during COVID-19 restrictions. Thus, our first aim compared changes in appearance-focused behaviors between individuals reporting high and low levels of dysmorphic concern, as it was expected that COVID-19 restrictions may affect these groups differently. Given that increases or decreases in appearance-focused behaviors may both be plausible, a direction of change was not predicted. Therefore, the second aim was to explore some of the factors, which might underlie the frequency of appearance-focused behaviors during the COVID-19 pandemic, such as demographics (age, gender, employment, and living situation) and psychological factors (depression, anxiety, stress, dysmorphic concern, and distress over the temporary closure of beauty and cosmetic services). Aim three examined whether Australians were negatively impacted by the disruption to beauty services, and if this affected the desire to obtain future beauty treatments. It was expected that individuals with higher dysmorphic concern would report greater distress over the closure of beauty services and increased desire to obtain future treatments. To examine whether individuals were driven to alter or fix their appearance themselves to compensate for their lack of usual beauty procedures, aim four explored whether participants attempted any self-administered beauty treatments in response to the closure of cosmetic and beauty services.

2 | METHOD

The study received ethical approval from the Swinburne University Human Research Ethics Committee (SUHREC) and complied with the Declaration of Helsinki.

2.1 | Design and measures

Cross-sectional data were collected from participants via an online survey between the 24 and 31 May 2020, the final week of COVID-19 restrictions in Australia prior to the re-opening of beauty services across all states (Note: states have since differed in whether beauty services have remained open or restrictions re-implemented). Members of the general public residing in Australia and over 18 years were invited to participate. Respondents were recruited from social media advertisements, a participant registry established for volunteers willing to take part in body image research, and non-discriminative snowball sampling.

The online survey included a battery of measures, which took ~20 min to complete. Participants completed demographic questions probing age, gender, ethnicity, employment, marital status, and current living situation. Other measures relevant to the current study are detailed below.

2.1.1 | Dysmorphic concern

Participants completed the Dysmorphic Concern Questionnaire (DCQ; Oosthuizen et al., 1998), a valid measure of the degree of a person's dysmorphic concern relating to appearance (Mancuso et al., 2010; Schieber et al., 2018). The DCQ includes seven items (rated from 0 to 3, with three being most concerned) measuring the extent of concern with physical appearance and belief that one is flawed in some way despite disagreement from others. Scores are summed to produce a total DCQ score (range = 0–21), with higher scores indicating greater dysmorphic concern. A recommended DCQ cut-off score of 11 (Stangier, Janich, Adam-Schwebe, Berger, & Wolter, 2003) was used to classify participants as having high (≥ 11) or low dysmorphic concern (< 11). Scores above the cut-off of 11 are likely to signal clinically significant body image concern and have previously demonstrated 100% sensitivity and 79.1% specificity in detecting BDD (Schieber et al., 2018; Stangier et al., 2003).

2.1.2 | Appearance-focused behaviors

Participants rated the frequency of engagement in 18 appearance-focused behaviors (e.g., grooming, mirror-checking, appearance comparisons, etc.; see Supplementary material) adapted from the Diagnostic and Statistical Manual for Mental Disorders—Fifth Edition (American Psychiatric Association, 2013) for the current study. Appearance-focused behaviors were rated in a typical week prior to the COVID-19 pandemic and at the peak of COVID-19 restrictions on a five-point Likert scale from one (never) to five (more than 2 hr per day). Scores were summed to produce total scores (range = 18–90) of appearance behaviors pre-COVID-19 (Cronbach's $\alpha = .90$) and during COVID-19 restrictions (Cronbach's $\alpha = .91$), both with high internal consistency. Validity checks (see Supplementary material) revealed good concurrent validity between the appearance-

focused behavior scale, DCQ scores, and negative emotionality scores.

2.1.3 | Negative emotional states

Negative mood states were assessed using the depression, anxiety, and stress scale (DASS-21; Lovibond & Lovibond, 1995). The DASS-21 allows calculation of a total score of negative emotionality as well as anxiety, depression, and stress subscale scores over the previous week, with good construct validity (Henry & Crawford, 2005; Tully, Zajac, & Venning, 2009). As per DASS-21 scoring guidelines, total scores on each scale were doubled, ranging from 0 to 42 for each subscale, and 0 to 126 for the total scale.

2.1.4 | Beauty services

Participants rated their distress regarding the disruption of the following beauty services on a scale of one (not at all distressed) to five (extreme and disabling distress): nonsurgical cosmetic procedures, cosmetic surgeries, tanning salons, nail salons, hairdressers, hair removal services, and eyelash/eyebrow services (e.g., eyelash extensions, eyebrow shaping, tinting, etc.). A total "distress" score was calculated from the seven items with an acceptable Cronbach's α of .78.

Participants also rated their change in desire to obtain the above beauty services since COVID-19 restrictions were implemented on a scale of -5 (decreased desire to obtain beauty services) to $+5$ (increased desire to obtain beauty services). A total "desire" score was calculated from the seven items with good internal consistency (Cronbach's $\alpha = .82$).

2.1.5 | Self-administered treatments

Participants were asked whether they had self-administered a beauty treatment during COVID-19 restrictions, which they would usually obtain at a salon or clinic. If so, they were asked to describe the at-home treatments conducted.

2.2 | Statistical analysis

Descriptive statistics were calculated for the overall sample, and for the low and high DCQ groups. Groups were compared on demographic and psychological variables (DCQ and DASS-21 scales) using *t* tests (continuous variables) and chi-squared analyses (categorical variables). To account for multiple comparisons, an alpha of $p = .004$ ($.05/12$) was applied.

To address aim one and identify whether appearance behaviors changed in frequency from a typical week before the COVID-19 pandemic to the peak of COVID-19 restrictions, and if these changes

were influenced by dysmorphic concern, a two-way mixed-design analysis of variance (ANOVA) was conducted (time \times dysmorphic concern group).

Aim two was examined using a multiple regression analysis (method: enter) to determine which factors predicted higher engagement in appearance-focused behaviors during COVID-19 restrictions. Predictors included demographic (age, gender, current employment [Y/N], and currently living alone [Y/N]), and psychological variables (DCQ score, the three DASS-21 subscale scores, and total distress over the closure of beauty services).

To examine aim three regarding whether low and high DCQ groups differed in distress due to the closure of beauty services, a series of *t* tests were conducted across individual beauty treatments and the composite distress score. A Bonferroni corrected *p*-value $<.006$ was required for statistical significance. To address whether DCQ groups differed in their desire to obtain beauty services since COVID-19 restrictions, a two-way mixed-design ANOVA (beauty treatment type \times dysmorphic concern group) was computed. Planned post-hoc tests were conducted to analyze how desire for various beauty treatments differed between groups.

Finally, to address the prevalence and characteristics of self-administered beauty treatments conducted during COVID-19 (aim four), the proportion of the sample reporting at-home treatments were calculated, and the types of treatments reported were thematically coded by two authors.

3 | RESULTS

3.1 | Sample characteristics

The online survey was started by 279 individuals. Of this sample, 216 (77.4%) completed the DCQ and appearance-related behaviors questionnaire and were included in subsequent analyses ($n = 63$ had dropped out by this stage of the survey). Demographic characteristics of the final sample ($n = 216$) and of the low and high DCQ groups are presented in Table 1, as well as the mean DCQ and DASS-21 scores for each group. Individuals in the high DCQ group ($n = 53$) reported higher negative emotionality on the DASS-21 scales, were younger, and more likely to be unemployed than the low DCQ group. There were no other demographic differences between the groups. Significant demographic differences between groups were controlled for in regression analyses but were not included in ANOVAs due to violated assumptions (Miller & Chapman, 2001).

3.2 | Aim one: Appearance-focused behaviors between dysmorphic concern groups

Results from the two-way mixed design ANOVA indicated no significant main effect of time. In the overall sample, the frequency of appearance-focused behaviors before COVID-19 ($M = 33.37$, $SD = 9.82$) was not significantly different from the frequency at the

peak of COVID-19 restrictions ($M = 31.58$, $SD = 10.75$), $F(1, 200) = 2.79$, $p = .10$, $\eta^2_p = .01$. There was a main effect of dysmorphic concern group ($F[1, 200] = 104.75$, $p < .001$, $\eta^2_p = .34$) with the high DCQ group (pre-COVID-19 $M = 42.14$, $SD = 9.04$; during COVID-19 $M = 42.44$, $SD = 11.92$) reporting significantly higher engagement in appearance-focused behaviors than the low DCQ group (pre-COVID-19 $M = 30.57$, $SD = 8.31$; during COVID-19 $M = 28.07$, $SD = 7.53$). More importantly, there was a significant interaction ($F[1, 200] = 156.59$, $p = .02$, $\eta^2_p = .03$). Examination of Figure 1 and post hoc *t* tests reveals an overall decrease in appearance-focused behaviors for the low DCQ group across time points ($t[153] = 5.13$, $p < .001$, $d = .42$), while there were no significant changes in appearance-focused behaviors in individuals with high dysmorphic concern over time ($t[49] = -.26$, $p = .80$, $d = -.04$).

3.3 | Aim two: Factors predicting engagement in appearance-focused behaviors

Results from the multiple regression analysis exploring predictors of appearance-focused behaviors during COVID-19 restrictions are presented in Table 2. Gender, employment status, and DASS subscales did not significantly predict the frequency of appearance-focused behaviors. The remaining variables accounted for 56.6% of the variance in appearance-focused behaviors during COVID-19 ($R^2 = .57$, $F[9, 187] = 27.09$, $p < .001$). Individuals who were younger, living alone, expressed higher dysmorphic concern, and greater distress over the closure of beauty services were more likely to engage in appearance-focused behaviors during COVID-19.

3.4 | Aim three: Distress regarding disruption to beauty services and change in desire to obtain future beauty treatments

Results from DCQ group comparisons of the distress regarding disruption to beauty services are presented in Table 3, as well as mean distress scores of the overall sample. The overall sample reported being mildly bothered on average regarding the disruption of all beauty services examined, with the greatest concern about hairdressers and the least concern regarding the unavailability of tanning salons and cosmetic surgeries. The high DCQ group was significantly more distressed by the closure of beauty services overall, compared with the low DCQ group. In particular, the high DCQ group was more concerned over the closure of nail salons, eyelash/brow services, and hairdressers, after Bonferroni correction.

In terms of desire to obtain beauty services, results from the two-way mixed-design ANOVA revealed a significant main effect of beauty treatment ($F[6, 1,008] = 21.34$, $p < .001$, $\eta^2_p = .11$) and DCQ group ($F[1, 168] = 11.51$, $p < .001$, $\eta^2_p = .07$). Desire ratings differed between the seven beauty treatments (most desire for hairdressers, least for tanning services), and the low DCQ group reported lower desire scores overall than the high DCQ group. A significant

TABLE 1 Demographic and psychological characteristics of the overall sample, low dysmorphic concern, and high dysmorphic concern groups

	Overall sample <i>n</i> = 216	Low DCQ <i>n</i> = 163	High DCQ <i>n</i> = 53
Age, <i>M</i>(<i>SD</i>)	32.49 (11.82)	34.30 (12.43)	28.55 (10.62)
Gender, <i>n</i> (%)			
Men	24 (11.1%)	22 (13.5%)	2 (3.8%)
Women	190 (87.9%)	139 (85.3%)	51 (96.2%)
Other	2 (.01%)	2 (1.2%)	0 (0%)
Marital status, <i>n</i> (%)			
Single	87 (40.3%)	59 (36.2%)	28 (52.8%)
Married/Defacto	90 (41.7%)	73 (44.8%)	17 (32.1%)
In a relationship (not living together)	35 (16.2%)	28 (17.2%)	7 (13.2%)
Highest education level, <i>n</i> (%)			
Secondary school	45 (20.8%)	30 (18.4%)	15 (28.3%)
Diploma/trade qualification	43 (19.9%)	28 (17.2%)	15 (28.3%)
Undergraduate	72 (33.3%)	53 (32.5%)	19 (35.8%)
Masters/doctorate/PhD	48 (22.2%)	45 (27.6%)	3 (5.7%)
Living situation, <i>n</i> (%)			
Living alone	31 (14.4%)	23 (14.1%)	8 (15.1%)
Living with partner/family	158 (73.1%)	116 (71.2%)	42 (79.2%)
Living with housemates	27 (12.5%)	24 (14.7%)	3 (5.7%)
Employment status^{**}, <i>n</i> (%)			
Unemployed	30 (13.9%)	19 (11.7%)	11 (20.8%)
Student (full-time/part-time)	56 (25.9%)	41 (25.2%)	15 (28.3%)
Employed (full-time/part-time/casual)	117 (54.2%)	90 (55.2%)	27 (50.9%)
Homemaker/volunteer/retired	13 (6.0%)	13 (8.0%)	0 (0%)
Previous cosmetic treatment, <i>n</i> (%)			
Yes	63 (29.2%)	42 (25.8%)	21 (39.6%)
No	153 (70.8%)	121 (74.2%)	32 (60.4%)
Psychological variables, <i>M</i>(<i>SD</i>)			
DCQ score ^{**}	6.61 (5.57)	3.93 (2.94)	14.85 (3.14)
DASS-21 depression ^{**}	13.55 (11.91)	10.73 (10.67)	21.92 (11.53)
DASS-21 anxiety ^{**}	8.91 (9.25)	6.23 (6.77)	16.87 (10.96)
DASS-21 stress ^{**}	15.72 (10.61)	13.25 (9.46)	23.09 (10.52)
DASS-21 Total ^{**}	38.29 (28.74)	30.31 (24.02)	61.89 (28.80)

Note: Group differences between high and low DCQ groups were explored using t-tests for continuous variables and chi-squared tests for categorical variables. ^{**}denotes significant difference between high and low DCQ groups at $p < .001$.

Abbreviations: DASS-21, depression, anxiety, and stress scale (21-item version); DCQ, dysmorphic concern questionnaire.

interaction effect was also observed ($F[6, 1,008] = 3.45, p = .006, \eta^2_p = .02$). Interaction plots (see Figure 2) and post hoc *t* tests revealed that individuals in the high DCQ group reported increased desire to obtain all beauty treatments, except for tanning and nail services. In the low DCQ group, desire to attend the hairdresser, hair removal and nail services increased, while the desire to obtain eyelash/eyebrow treatments, surgical, and nonsurgical cosmetic procedures decreased.

3.5 | Aim four: Prevalence of self-administered beauty treatments

Of the overall sample, 67 participants (25.0%) reported they had self-administered a beauty treatment during COVID-19 restrictions that they would usually obtain at a clinic or salon. The types of self-administered beauty-treatments and the proportion of participants carrying out these treatments are reported in Table 4.

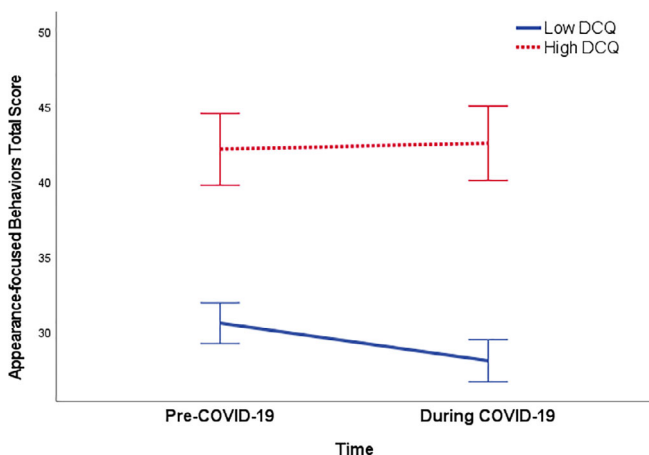


FIGURE 1 Change in appearance-focused behavior total score (range 18–90) in a typical week prior to COVID-19 restrictions compared with the peak of COVID-19 restrictions. DCQ = Dysmorphic Concern Questionnaire. Scores are presented separately for groups scoring highly on the DCQ (≥ 11) versus those scoring below the DCQ cut-off (< 11). Error bars reflect 95% confidence intervals [Color figure can be viewed at wileyonlinelibrary.com]

4 | DISCUSSION

The current study is the first to explore the relationship between COVID-19 restrictions and appearance-focused behaviors, contributing to an understanding of potential pandemic-related effects on dysmorphic concern. Results indicate that COVID-19 restrictions and the temporary closure of beauty services may have positive implications for the general public, but present risks for individuals with high dysmorphic concern. The amount of time invested in physical appearance decreased for those with low dysmorphic concern, but appearance-focused behaviors remained unchanged compared with self-reports of

pre-COVID-19 levels in the high DCQ group. Higher engagement in appearance-focused behaviors during the COVID-19 pandemic was associated with living alone, younger age, higher dysmorphic concern, and greater distress over the disruption to beauty services.

As expected, individuals with high dysmorphic concern displayed higher negative emotionality, greater distress regarding the closure of beauty services due to COVID-19 restrictions, and increased desire to obtain future beauty or cosmetic treatments compared with the low DCQ group. Further, 25% of the current sample reported self-administering beauty treatments during COVID-19 restrictions, which otherwise would have been obtained at a salon. These treatments were generally noninvasive, including cutting their own hair, body hair removal, or doing their nails.

For individuals without significant dysmorphic concern, COVID-19 restrictions may have provided a welcomed break from societal pressures on physical appearance, which could explain the reduction in appearance-focused behaviors in the low DCQ group. The current work supports the notion that fear of public scrutiny (increased when leaving the house) may play a role in appearance-focused-behaviors such as grooming, mirror-checking, and choosing clothing (Festinger, 1954; Senín-Calderón, Gálvez-González, Perona-Garcelán, Camacho, & Rodríguez-Testal, 2019). However, even with reduced opportunity to leave the house during COVID-19 restrictions, participants with high dysmorphic concern continued to engage in frequent appearance-focused behaviors. This suggests that these behaviors are not purely driven by fear of public scrutiny, but also other factors such as general stress levels, adherence to a routine, or gaining a sense of control (Oates & Sharp, 2017). Indeed, the COVID-19 pandemic has presented many unpredictable and uncontrollable stressors (Pfefferbaum & North, 2020; Rossell et al., 2020), which could be experienced to a greater extent in the high DCQ group, who were more likely to be unemployed or psychologically distressed. As such, individuals with a high dysmorphic concern may have continued to engage in appearance-related safety

TABLE 2 Multiple regression analysis of factors predicting engagement in appearance-focused behaviors during the COVID-19 pandemic

	B	SE _B	β	<i>p</i>
Constant	11.92	3.55	–	<.001
Demographic variables				
Age	–0.10	0.05	–.11	.03
Gender	0.51	1.49	.02	.73
Living alone	3.71	1.46	.13	.01
Currently employed	.43	1.07	.02	.69
Psychological factors				
DCQ	0.71	0.17	.41	<.001
DASS-21 depression	–0.08	0.07	–.09	.27
DASS-21 anxiety	0.12	.10	.11	.18
DASS-21 stress	0.10	0.09	.10	.30
Distress over beauty salon closure	1.37	0.17	0.41	<.001

Note: Significant *p*-values at *p* < .05 have been bolded.

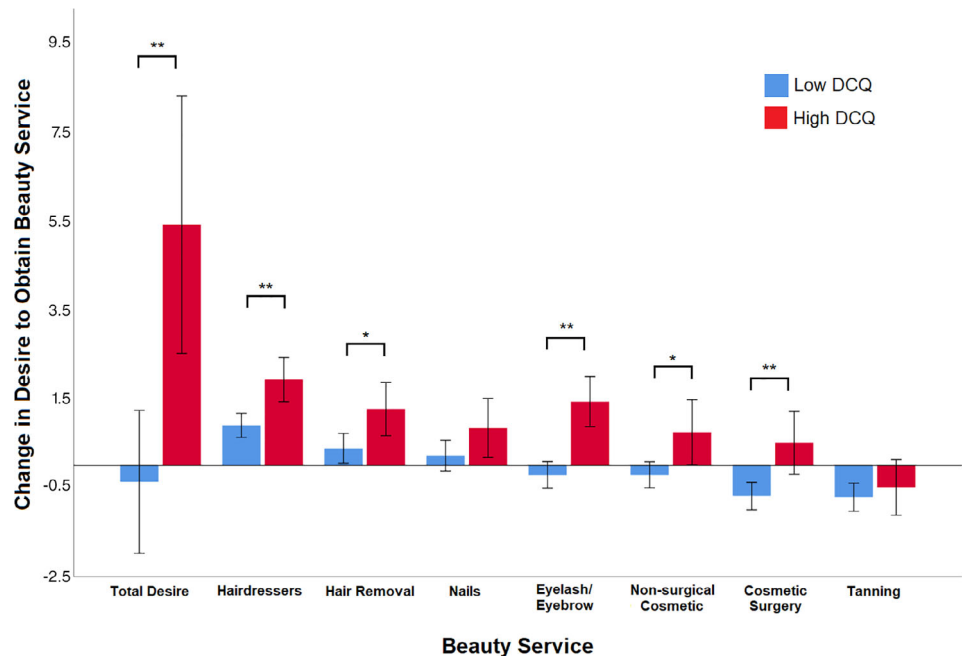
Abbreviations: DASS-21, depression, anxiety, and stress scale (21-item version); DCQ, dysmorphic concern questionnaire.

TABLE 3 Level of distress regarding the closure of beauty services in the overall sample and comparisons between low and high dysmorphic concern (DCQ) groups

	Overall sample	Low DCQ	High DCQ	<i>t</i>	<i>p</i>	Effect size (<i>d</i>)
	<i>n</i> = 213	<i>n</i> = 160	<i>n</i> = 53			
Hairdressers	1.79 (.83)	1.72 (.77)	2.09 (1.00)	−3.02	.003	0.48
Hair removal services	1.52 (.77)	1.43 (.68)	1.77 (.95)	−2.56	.01	0.46
Nail salons	1.42 (.80)	1.33 (.68)	1.75 (1.05)	−2.90	.005	0.58
Eyelash/eyebrow services	1.28 (.71)	1.18 (.56)	1.62 (1.02)	−3.15	.003	0.68
Non-surgical cosmetic services	1.25 (.62)	1.18 (.50)	1.49 (.89)	−2.43	.02	0.51
Cosmetic surgeries	1.08 (.44)	1.04 (.33)	1.25 (.68)	−2.16	.03	0.47
Tanning salons	1.09 (.37)	1.07 (.34)	1.17 (.47)	−1.47	.15	0.27
Total distress	9.47 (3.06)	8.96 (2.39)	11.15 (4.29)	−3.67	<.001	0.78

Note: Distress over the closure of each beauty service was scored on a scale of 1 (not at all distressed) to 5 (extreme and disabling distress). The table reflects group differences based on *t* tests between high and low DCQ groups. Significant group differences at Bonferroni corrected $p \leq .006$ are bolded.

FIGURE 2 Change in the desire to obtain cosmetic treatments since COVID-19 restrictions began across low dysmorphic concern (DCQ) and high DCQ groups. Scores for individual beauty services range from −5 (decreased desire to obtain beauty service) to +5 (increased desire to obtain beauty service). The solid line reflects “no change” in desire. * denotes significant difference between groups based on *t* tests at $p < .05$, ** denotes significant difference at $p < .001$ [Color figure can be viewed at wileyonlinelibrary.com]

**TABLE 4** Proportion of sample self-administering beauty treatments during COVID-19 restrictions

Self-administered treatment	<i>n</i> (%)
Eyebrows (waxing, threading, plucking, tinting)	21 (33.9%)
Hair (cutting, styling, bleaching)	19 (30.6%)
Hair removal (waxing, shaving, IPL ^a)	19 (30.6%)
Nails	13 (21.0%)
Skincare (facial or other skincare products)	13 (21.0%)
Other (e.g., self-tanning, tattooing, exercises to reduce frown lines)	4 (6.5%)

Note: Total *n* = 67 individuals who reported self-administering treatments during COVID-19 restrictions.

^aIPL refers to intense pulse light, a method of hair removal involving high intensity light pulses.

behaviors as habitual methods of stress and anxiety relief (Radix et al., 2019; Veale, 2004).

Beyond dysmorphic concern, higher engagement in appearance-focused behaviors during the COVID-19 pandemic was observed in individuals who lived alone, were younger, and more distressed over the closure of beauty services. These may represent groups who are also particularly susceptible to increased psychological distress during the COVID-19 pandemic, due to social isolation, interruptions to work or education, and the lack of alternative safety behaviors (e.g., beauty and cosmetic treatment; Li & Wang, 2020; Pfefferbaum & North, 2020). While heightened engagement in appearance-focused behaviors may help in relieving distress in the short-term, longer-term effects could place these individuals at risk of worsening appearance-related distress and self-consciousness in the future (Veale, 2004).

It was unsurprising that young people in particular were spending more time engaging in appearance-focused behaviors during COVID-19 restrictions, given body dissatisfaction and dysmorphic concern often peak during young adulthood (Bucchianeri, Arikian, Hannan, Eisenberg, & Neumark-Sztainer, 2013; Schieber et al., 2018). Further, despite the reduced opportunity for face-to-face interaction during COVID-19 restrictions, younger individuals may have socialized with peers virtually or via social media. Indeed, a recent survey revealed that 58% of young people between 16 and 24 years reported increased social media usage during the COVID-19 pandemic (GlobalWebIndex, 2020). Social media use has previously been linked to increased body dissatisfaction and engagement in appearance-focused behaviors such as body checking (e.g., Frost & Rickwood, 2017; Holland & Tiggemann, 2016). As such, social media and virtual communication during COVID-19 restrictions may contribute to the higher frequency of appearance-focused behaviors in young people.

Individuals who were distressed by the closure of beauty services were the most likely to report higher engagement in appearance-focused behaviors during the COVID-19 pandemic. Participants in the low DCQ group reported most concern over the closure of popular non-permanent beauty services (e.g., hairdressers, nail salons, hair removal services) and slightly increased desire to obtain these treatments in the future. However, the high DCQ group (who are more likely to have clinically significant body image concern) reported greater distress overall by the closure of beauty services and increased desire to obtain almost all treatments, including surgical and nonsurgical cosmetic interventions. Limited access to beauty treatments may seem beneficial for people with high dysmorphic concern in the long-term (Wilhelm et al., 2013). However, the rapid implementation of these restrictions due to COVID-19 would not have allowed individuals time to gradually adjust and develop alternative coping mechanisms without beauty or cosmetic treatment. This may explain the increase in appearance-focused behaviors with greater distress over beauty service closure. Thus, COVID-19 restrictions on beauty services may produce unwanted side-effects on the mental wellbeing of more vulnerable consumers. In contrast, individuals with healthier body image may be less likely to seek out more permanent changes in physical appearance through cosmetic treatment as COVID-19 restrictions ease.

A quarter of participants in the current study turned to alternative methods to alter their appearance while beauty services were closed. While the methods of self-administered treatment were generally harmless, such as shaving instead of waxing, this indicates that some appearance concerns persisted despite reduced in-person social interaction. This could relate to the increase in video-based communication during the COVID-19 pandemic, with many individuals using videoconferencing platforms for work or social purposes (Bennett & Grant, 2020). Many have raised concerns over the possibility for video-calls to promote appearance dissatisfaction, as individuals are exposed to their own image on camera for the duration of the call, akin to staring in the mirror for lengthy periods (e.g., Black, 2020; Rodgers et al., 2020). As such, despite reduced face-to-face social

interaction, continued exposure to visual scrutiny on video-calls may explain the persistent engagement in appearance-focused behaviors and increased desire for beauty procedures in the high DCQ group, as well as the high proportion of self-administered treatments in the overall sample. However, as video-calling behaviors were not assessed in the current study, future research should seek to examine the relationship between video-based communication, appearance-focused behaviors, and interest in beauty and cosmetic procedures.

The present research provides a broad cross-sectional examination of the relationship between COVID-19 restrictions on beauty services, appearance-focused behaviors, and dysmorphic concern in an Australian sample. More detailed analysis of the specific appearance-focused behaviors that changed during COVID-19 restrictions is warranted, as well as investigation of broader effects on body image dissatisfaction and appearance concern (regarding either a perceived or visible aspect of appearance). Further, a larger sample and greater representation of male participants would have allowed stratification of results by age, gender, and employment status to identify population groups most at risk of increasing appearance preoccupation. The current study also adopted a specific focus on COVID-19 restrictions on beauty and cosmetic services. However, other factors relating to COVID-19 restrictions could have implications for dysmorphic concern and appearance dissatisfaction more broadly, such as the reduced opportunity for face-to-face social engagement and the shift to virtual communication. Further research should explore the impact of virtual communication (particularly video-based methods where the participant is subject to visual scrutiny by themselves or others) and social media usage during the COVID-19 pandemic on body image disturbance and engagement in appearance-focused behaviors.

5 | CONCLUSIONS

The current study revealed that COVID-19 restrictions and the closure of beauty services may have positive implications for individuals with low dysmorphic concern, who reported reduced engagement in appearance-focused behaviors and reliance on beauty services. However, reduced access to beauty treatments and the stress of the COVID-19 pandemic may have negative implications for individuals with high dysmorphic concern. These individuals continued to engage in frequent appearance-focused behaviors and reported an increased desire to obtain cosmetic treatment, despite the reduced opportunity for visual scrutiny. Cosmetic clinics may observe increases in individuals with high dysmorphic concern seeking treatment as COVID-19 restrictions ease. This emphasizes the importance of psychosocial screening within these settings to ensure that the procedure is in the clients' best interests, given that BDD and heightened anxiety have previously been linked to poor cosmetic treatment outcomes (Bowyer et al., 2016; Pikoos, Rossell, Tzimas & Buzwell, 2020).

Further, the current findings have some potentially important clinical implications. Treatment of body image and obsessive-compulsive disorders (such as BDD) often involves gradual exposure

and response prevention to reduce safety behaviors (Wilhelm et al., 2013), and thus enable the development of alternative coping mechanisms. The prompt implementation of COVID-19 restrictions may have “ripped off the band-aid” for those who rely on beauty services to cope with negative emotions, which could exacerbate distress or promote engagement in potentially harmful alternatives, such as self-administered beauty procedures. As such, mental health clinicians should be cognizant of potential appearance-related behavioral and emotional changes for clients during this time. The current shift to online and remote psychological therapies during the COVID-19 pandemic may also provide an opportunity to engage clients with body image disorders in treatment, as they are traditionally difficult to engage in face-to-face therapy (Phillips, 2014). The full scope of mental health challenges, which may result from the COVID-19 pandemic is still emerging; however, current results indicate that the impact on clients with appearance-related concerns may be a key priority for future research.

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CONFLICT OF INTEREST

The authors have declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

AUTHOR CONTRIBUTIONS

Toni D Pikoos and Susan L Rossell conceived the project and design and constructed the survey. All authors Toni D Pikoos, Simone Buzwell, Gemma Sharp, and Susan L Rossell finalized the design, contributed to the survey, engaged in data collection, and interpretation of findings. Toni D Pikoos and Susan L Rossell completed all the data analyzes in consultation with the other authors. All authors prepared the manuscript and agreed to its final form.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

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