

Facebook False Self-Presentation Behaviors and Negative Mental Health

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Abstract

As research examining what constitutes Facebook false self-presentation is lacking, the aim of this study was to develop a preliminary inventory of Facebook false self-presentation behaviors, as well as identify predictors and possible outcomes. Participants ($N=211$) completed questions regarding frequency of engagement in Facebook false self-presentation behaviors, as well as self-esteem, social influences, motivation strategies, well-being, depression, anxiety, and stress. Results indicated the presence of two distinct false self-presentation behaviors: lying (e.g., untruthful status updates, profile creation) and liking behaviors (e.g., liking posts dishonestly), each associated with different predictors and outcomes. Results indicated that moral norms significantly predicted lying behaviors; and age, self-esteem, group norms, and moral norms significantly predicted liking behaviors. Unexpectedly, liking behaviors were associated with depression, anxiety, and stress, whereas lying behaviors were related to anxiety only. Findings highlight associations between online self-presentation strategies, in particular liking behaviors, on Facebook and possible offline negative mental health.

Keywords: false self-presentation, Facebook, mental health, norms

Introduction

SOCIAL NETWORKING SITES (SNS) are a central platform for online social communication and interaction. Users' offline and online worlds are becoming increasingly integrated.¹ Latest statistics show 87 percent of emerging adults worldwide between the ages of 18 and 29 years use Facebook.² Emerging adults use self-presentation strategies when interacting with others on Facebook.³ It has been suggested that SNS can facilitate false self-presentation which, in certain situations, could lead to reduced well-being and pathology.⁴ Thus, more understanding of false self-presentation on SNS is needed.

False self-presentation on Facebook has been shown to be associated with a fragmented sense of self and low self-esteem.⁵ Gil-Or et al. found that high levels of false self-presentation on Facebook was linked to low self-esteem and an avoidant and anxious attachment style. As engaging in high levels of this behavior has been linked to psychological problems, it is important to identify exactly what constitutes false self-presentation behaviors. Based on research suggesting users who participate in high levels of false self-presentation are at odds with regular Facebook users,⁴ this study sought to identify behaviors perceived as false self-presentation, and the frequency of engagement of these behaviors by Facebook users.

Online Self-Presentation

Self-presentation on Facebook is a recent field of exploration and there is debate whether it follows the same patterns as offline self-presentation. Reinecke and Trepte⁶ found those who presented their true self on Facebook had higher levels of positive affect and lower levels of negative affect. In a more recent study, Grieve and Watkinson⁷ found those who were more authentic on Facebook experienced better social connectedness and less stress. This outcome echoes previous research into real-world self-presentation of the true self that found authenticity was significantly correlated to self-esteem and well-being.⁸

These research findings suggest that presenting a true self online shares similar patterns to presenting a true self offline; however, it is not clear that these same associations are seen when presenting a false self. A major distinction between face-to-face and online self-presentation is the nature of communication and the associated feedback, including nonverbal cues. Deception is predominately detected through nonverbal cues and the loss of this mode of feedback could increase presentation of the false self as users feel less likely to be detected when presenting false information.⁹ Indeed, researchers found that most users' Facebook self differed somewhat from their real-life self and 7.5 percent differed significantly from their real self.⁴ However, other

research has found that Facebook profiles conveyed a fairly accurate impression of the user.¹⁰ Furthermore, research into privacy issues online and its impact on self-presentation strategies^{11,12} have shown that users may masquerade¹³ or hide¹⁴ their identity due to privacy concerns. Interestingly, research specifically into Facebook user behavior found that skilled users were more likely to manage their Facebook privacy settings¹¹ rather than moderate the actual information they shared.^{15,16} Given Facebook's popularity as a medium for online self-presentation, it is important to understand if emerging adults participate in false self-presentation on Facebook according to specifically defined behaviors, their motivations to do so, and if engaging in false self-presentation on Facebook shares similar patterns to false self-presentation in real life. The present study will compare the perceived acceptability of false self-presentation behaviors on Facebook and real life.

Predictors of False Self-Presentation

As research has shown that engaging in high levels of false self-presentation on Facebook can lead to negative outcomes, it is important to identify predictors that may make users more likely to participate in this behavior. Results gained through this identification may contribute to greater understanding of those most at risk of experiencing potentially negative outcomes.

Self-esteem

Self-esteem is associated with self-presentation styles.¹⁷ Facebook use has been found to increase self-esteem for those with high and low levels.¹⁸ Studies have shown that those with high self-esteem present their real self on Facebook, whereas those with low self-esteem are more likely to present a false self.^{4,5,19,20}

Strategies: self-verification and self-enhancement

Research into self-presentation in real life has shown people use self-enhancement strategies to impress others²¹ and self-verification strategies to confirm their self views.²² It is possible those presenting a false self on Facebook do so for self-enhancement and those presenting a true self are motivated by self-verification. Previous research has found participants used self-enhancement strategies in status updates more than self-verification strategies.²³ These findings suggest that those who use more self-enhancement strategies and fewer self-verification strategies are more likely to present a false self on Facebook.

Social influences—group norms and moral norms

Group norms and moral norms influence both online and offline behaviors.^{24,25} For instance, moral norms (moral obligation to engage in a behavior) and group norms (behaving consistently with perceived norms of a social group) have significantly predicted online microvolunteering behaviors.²⁶ Furthermore, recent research found supportive group norms were positively correlated with increased Facebook use.²⁵ These findings suggest those influenced by group norms engage in false self-presentation on Facebook because they believe others in their social group do and those

influenced by moral norms present a false self on Facebook because they believe it is morally acceptable.

Outcomes of False Self-Presentation

As previous research has suggested self-esteem, motivation strategies, and social influences may predict false self-presentation on Facebook, other research indicates possible negative outcomes. Identifying these outcomes is important in establishing any impact participating in this behavior might have on emerging adults.

Well-being

Psychological well-being (PWB) has been shown to positively correlate with Facebook use particularly for those lacking social skills,²⁷ but not for passive Facebook users.²⁸ For self-presentation, well-being has been both positively associated with presenting a true self on Facebook and negatively associated with presenting a false self.⁵

Depression, anxiety, and stress

Previous research has suggested presenting a false self in general is associated with negative mental health outcomes such as depression and anxiety.²⁹ Weir and Jose³⁰ found initial levels of depression and anxiety predicted increases in false self-presentation. For self-presentation on Facebook, research has shown those who present a true self on Facebook have lower levels of stress.⁷

The Present Study

Given Facebook is the most used SNS by emerging adults² and self-presentation is used to convey information about the self to others,³¹ the present study will investigate self-presentation behaviors on Facebook. As Facebook allows users to present any information about themselves, including presenting a false self, investigations have suggested high levels of this behavior may lead to negative outcomes such as reduced well-being and pathologies.⁴ This study sought to establish a preliminary inventory of potential false self-presentation behaviors on Facebook, and investigate potential predictors of this behavior, including self-esteem, high engagement in self-enhancement and low engagement in self-verification strategies, and supportive group and moral norms. The relationship between false self-presentation on Facebook and mental health measures of well-being and depression, anxiety, and stress was also explored.

Research question 1a

Based on research which suggests that Facebook users who participate in extreme forms of false self-presentation are at odds to regular Facebook users,⁴ the primary research question is to identify indicative behaviors perceived as false self-presentation.

Research question 1b

Based on research which suggests that presenting a true self online shares similar patterns to presenting a true self offline and that it is not clear that these same associations are evidenced when presenting a false self, research question 1b

will compare the perceived acceptability of false self-presentation behaviors on Facebook and real life.

Research question 2

The second research question focuses on exploring what are the key variables associated with false self-presentation behaviors on Facebook.

H_{1a}: Low levels of self-esteem will predict high levels of false self-presentation on Facebook.

H_{1b}: High levels of self-enhancement strategies and low levels of self-verification strategies will predict high levels of false self-presentation on Facebook.

H_{1c}: Moral acceptability of the behavior and supportive group norms will predict high levels of false self-presentation on Facebook.

Research question 3

Research question three examines the relationship between false self-presentation and negative outcomes.

H₂: High levels of false self-presentation on Facebook will be associated with poorer mental health outcomes: lower levels of well-being, higher levels of depression, anxiety, and stress.

Materials and Methods

Participants

Participants were 211 Facebook users (67 percent female) aged 18–29 years ($M=21.23$, $SD=3.48$) who were current Australian residents. Most participants for the study were enrolled at university and were also currently employed in a variety of settings. On average, they had 487 Facebook friends (60 percent on average were friends in real life), had used Facebook for ~6 years, and spent 14 hours per week, posting less than once per week (Table 1).

Measures

Pilot study. A pilot study was administered to 11 Facebook users aged 18–29 years ($M=24$, 55 percent female). The pilot study included a 19-item list of false self-

presentation behaviors on Facebook. The items that formed the pilot inventory of false self-presentation behaviors on Facebook were based on previous research into self-presentation behaviors on Facebook and an analysis of Facebook design. Specifically, eight items were developed using currently available profile creation options on Facebook (e.g., age, gender, and occupation) and four items were developed from available actions on Facebook (e.g., posting, friending, and liking). Four items were included based on research which found that, when engaging in self-presentation online, females were more likely to post pictures and discuss feelings, whereas males were more likely to discuss music and sports.³² One item was included based on research regarding self-presentation strategies and brands and found that some Facebook users associate with brands for deceptive reasons.³³ The final two items were included based on research regarding microactivism, self-presentation, and political identity on Facebook, which suggested that users support causes on Facebook as an indicator of political identity and not something that was supported or acted on outside of Facebook.³⁴ Example items included “Posting a status update exaggerating the way you feel,” and “Liking musicians you don’t listen to” (see Table 2 for a full list of items).

Pilot study participants were asked to rate the extent to which the items were examples of false self-presentation behaviors on Facebook (Likert scale from 1—*no extent* to 6—*very great extent*). Results from the pilot study supported the inclusion of all 19 items in the main questionnaire ($M=3.43$, $SD=1.06$). Furthermore, in an open-ended prompt following the 19 items, no additional unique behaviors were offered by the participants as further examples of Facebook false self-presentation.

Main questionnaire. All scales showed good reliability except for self-verification showing moderate reliability (Table 3). Please see Appendix Table A1 for a list of items included in the main questionnaire.

Facebook False Self-presentation Behaviors Inventory. The Facebook False Self-presentation Behaviors Inventory (FFSBI) is a 19-item scale measuring the extent users participate in a range of false self-presentation behaviors on

TABLE 1. FACEBOOK CHARACTERISTICS OF THE MAIN STUDY PARTICIPANTS

Facebook characteristics	Average amount	SD	Range
Average number of hours spent on Facebook per week	14.36	11.49	0–38
Average number of posts on Facebook per week	0.91	1.11	0–7
Average number of Facebook friends	487	388.27	0–2,000
Average % of Facebook friends who are			
friends in real life	56.60%	22.01	
Friends of friends	26.07%	20.15	
Family members	14.68%	9.71	
People not known	13.72%	15.25	
Average number of years using Facebook	6.38	1.97	1–12
Average number of Facebook accounts	1.33	0.67	1–3
Profile picture is of user			
Yes	94.8%		
No	5.2%		

SD, standard deviation.

TABLE 2. TWO-FACTOR LOADING RESULTS FOR FACEBOOK FALSE SELF-PRESENTATION BEHAVIORS INVENTORY

Item	Lying	Liking	M	SD
Lying about your relationship status	0.55	−0.05	1.14	0.60
Lying about your age	0.48	0.04	1.14	0.65
Lying about the gender you identify as	0.65	−0.02	1.09	0.53
Lying about the gender you are interested in	0.76	−0.05	1.14	0.65
Lying about your achievements	0.78	−0.02	1.14	0.55
Lying about where you live	0.67	−0.10	1.22	0.81
Lying about the job you have	0.78	0.01	1.16	0.61
Lying about your religion	0.61	0.25	1.11	0.47
Posting a status update exaggerating the way you feel ^a	0.18	0.31	1.70	1.06
Posting a status update about doing something you didn't actually do	0.48	0.40	1.18	0.60
Only posting flattering pictures of yourself ^a	−0.14	0.40	3.40	1.65
Liking causes that you don't contribute to	0.16	0.56	2.14	1.30
Liking causes that you don't understand	0.17	0.70	1.43	0.84
Liking musicians you don't listen to	0.09	0.80	1.37	0.82
Liking sports teams you don't follow	0.22	0.66	1.25	0.66
Liking brands you don't buy	−0.11	0.71	1.70	1.11
Sharing a post you're not interested in ^a	0.40	0.40	1.18	0.62
Friending someone you don't like	−0.16	0.65	2.32	1.23
Liking a friend's status you don't agree with	0.004	0.65	1.61	0.99

^aIndicates excluded items.

Note. Items in bold had factor loading cutoffs >0.45.

FFSBI, Facebook False Self-Presentation Behaviors Inventory; M, mean.

Facebook (e.g., “Lying about your age,” 1 [*not at all*] to 6 [*very great extent*]).

Rosenberg self-esteem scale. The Rosenberg self-esteem scale³⁵ is a 10-item scale measuring general levels of self-esteem (e.g., “On the whole I am satisfied with myself”; 1 [*strongly agree*] to 4 [*strongly disagree*]).

Self-presentation strategies. Self-presentation strategies were measured using a scale previously adapted by Bareket-Bojmel et al.^{23,36} Two items measured self-verification (e.g., “I want others to see me as I see myself”) and four items measured self-enhancement (e.g., “I want others to see me as talented”). All items were rated scales from 1 (*not at all*) to 5 (*very much*).

Group norms and moral norms. Based on previous research,^{37,38} group norms and moral norms were each measured using a two-item scale. Group norm items (e.g., “Most of the people important to me engage in false self-presentation on Facebook.”) and moral norm (e.g., “I think false self-presentation on Facebook is morally acceptable”) items were rated on scales from 1 (*strongly disagree*) to 7 (*strongly agree*).

Motive acceptability. A six-item list was included comparing the acceptability of motivations for false self-presentation on Facebook and acceptability in real life. Three motivations were measured with separate items for Facebook and real life: to be funny, to deceive, and for privacy (e.g., “To what extent do you think false self-presentation on

TABLE 3. MEANS, STANDARD DEVIATIONS, RELIABILITIES, AND BIVARIATE CORRELATIONS FOR PREDICTORS OF LYING AND LIKING SUBSCALES OF FACEBOOK FALSE SELF-PRESENTATION BEHAVIORS INVENTORY

	1	2	3	4	5	6	7	8	9
1	Lying—FFSBI								
2	Liking—FFSBI	0.39***							
3	Age	−0.02	−0.23***						
4	Gender	0.01	0.09	−0.04					
5	Self-esteem	0.09	0.22**	0.04	0.10				
6	Group norm	0.13*	0.24***	0.11	0.13*	0.19**			
7	Moral norm	0.33***	0.29***	0.02	0.07	0.12*	0.42***		
8	Self-verification	−0.01	0.04	0.03	−0.02	−0.20**	−0.08	−0.07	
9	Self-enhancement	−0.07	0.09	−0.001	0.15*	−0.19**	−0.01	−0.06	0.45**
M		1.14	1.90	21.23		21.91	2.68	2.71	3.94
SD		0.41	0.69	3.48		5.79	1.54	1.48	0.87
Scale reliabilities		(0.83) ^a	(0.80) ^a		(0.92) ^a	(0.85) ^b	(0.61) ^b	(0.32) ^b	(0.80) ^a

^aCronbach's alpha for scale reliability.

^bBivariate correlation for scale reliability.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. All p values are two tailed.

TABLE 4. MEANS, STANDARD ERROR, AND CONFIDENCE INTERVALS FOR ACCEPTABILITY OF FACEBOOK VERSUS REAL-LIFE MOTIVATIONS FOR FALSE SELF-PRESENTATION

	Facebook	Real life	SE	Ba 95% CI
Deception	1.82	1.64	0.06	[0.07, 0.27]
Funny	2.96	2.55	0.07	[0.28, 0.55]
Privacy	4.25	4.03	0.06	[0.10, 0.35]

CI, confidence interval.

Facebook/real life is acceptable to protect your privacy"; 1 [not at all] to 7 [very great extent]).

Psychological well-being. PWB was measured using an 18-item modified version of Ryff's³⁹ shortened PWB scale⁴⁰ (e.g., "I like most parts of my personality," 1 [strongly disagree] to 7 [strongly agree]).

Depression, Anxiety, and Stress Scale. The Depression, Anxiety, and Stress Scale⁴¹ is a 21-item scale measuring symptom severity of depression (e.g., "I found it difficult to work up the initiative to do things"), anxiety (e.g., "I was aware of dryness of my mouth"), and stress (e.g., "I found it hard to wind down"), 1 (did not apply to me at all) to 4 (applied to me very much, or most of the time).

Procedure

This study utilized a cross-sectional survey design. Participants were recruited primarily from first year psychology students at an Australian university and through paid/unpaid advertising on Facebook group pages. Course credit or entry into a prize draw for vouchers was offered as compensation. Participation required completion of an online, anonymous questionnaire.

Results

Scale construction

Research question 1. A principal component analysis was conducted on the 19 items from the "FFSBI" with oblique rotation (direct oblimin). Using a factor loading cut-off of 0.45,⁴² results showed a two-component solution explained 68.60 percent of variance (Table 2). Three items were removed due to low loadings <0.45. The nine items clustering on component 1 represent lying false self-presentation be-

haviors, and seven items clustering on component 2 reflect liking false self-presentation behaviors.

Descriptives

Bivariate correlations revealed that lying behaviors and liking behaviors were significantly correlated with each other (Table 3). Group norms and moral norms were both significantly correlated with lying behaviors; age, self-esteem, group norms, and moral norms were all significantly correlated with liking behaviors. A paired-samples *t* test showed liking behaviors were engaged in significantly more than lying behaviors $t(210) = -16.18, p < 0.001, Ba$ 95 percent confidence interval (CI) [-0.85, -0.67].

Research question 1b. A paired-samples *t* test also showed participants were significantly more accepting of false self-presentation on Facebook to deceive others ($t(210) = 3.11, p = 0.003, d = 0.18$), to be funny ($t(210) = 6.16, p = 0.001, d = 0.31$), and to protect their privacy ($t(210) = 3.85, p = 0.001, d = 0.16$) than in real life (Table 4).

Predictors of Facebook false self-presentation

Research question 2. Two hierarchical multiple regression analyses were conducted assessing the predictors of both lying and liking false self-presentation behaviors on Facebook. Each regression followed the same process of entering age and gender at step 1, followed by entering self-esteem, group norms, moral norms, self-verification, and self-enhancement at step 2.

Results of the regression for lying behaviors were not statistically significant at step 1 ($F(2, 208) = 0.06, p = 0.94$) but statistically significant at step 2 ($F(7, 203) = 3.73, p = 0.001$), explaining 11.4 percent of variance (Table 5). At step 1, there were no significant predictors and at the final step, the only significant predictor was moral norms (partially supporting H_{1c}).

Results of the regression for liking behaviors were statistically significant at step 1 ($F(2, 208) = 6.80, p = 0.001$), explaining 6 percent of the variance (Table 6), and statistically significant at step 2 ($F(7, 203) = 8.03, p < 0.001$), explaining an additional 21.70 percent of variance. Overall, 27.70 percent of the variance was accounted for. At the first step, the significant predictor was age and, at the final step, the significant predictors were age, self-esteem, moral norms, and group norms (supporting H_{1a} , an H_{1c}).

TABLE 5. HIERARCHICAL MULTIPLE REGRESSION PREDICTORS OF LYING SUBSCALE OF FACEBOOK FALSE SELF-PRESENTATION BEHAVIORS INVENTORY

Step	Variable	B	95% CI	SE	B	sr ²	R ²	ΔR ²
1	Age	-0.02	[-0.02, 0.01]	0.01	-0.02	0.00	0.001	
	Gender	0.01	[-0.11, 0.13]	0.06	0.01	0.00		
2	Age	-0.004	[-0.02, 0.01]	0.01	-0.03	0.00	0.114	0.083
	Gender	-0.01	[-0.13, 0.11]	0.06	-0.01	0.00		
	Self-esteem	0.003	[-0.006, 0.01]	0.01	0.05	0.00		
	Group norm	-0.001	[-0.04, 0.04]	0.02	-0.004	0.00		
	Moral norm	0.09	[0.05, 0.13]	0.02	0.32***	0.08		
	Self-verification	0.03	[-0.04, 0.10]	0.04	0.06	0.00		
	Self-enhancement	-0.05	[-0.15, 0.05]	0.05	-0.07	0.00		

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. All p values are two tailed.

TABLE 6. HIERARCHICAL MULTIPLE REGRESSION PREDICTORS OF LIKING SUBSCALE OF FACEBOOK FALSE SELF-PRESENTATION BEHAVIORS INVENTORY

Step	Variable	B	95% CI	SE	B	sr ²	R ²	ΔR ²
1	Age	-0.05	[-0.07, -0.02]	0.01	-0.23**	0.05	0.061	
	Gender	0.12	[-0.08, 0.32]	0.10	0.08	0.00		
2	Age	-0.05	[-0.08, -0.03]	0.01	-0.26***	0.07	0.217	0.190
	Gender	-0.02	[-0.24, 0.15]	0.10	0.01	0.00		
	Self-esteem	0.02	[0.01, 0.04]	0.01	0.21**	0.04		
	Group norm	0.06	[0.002, 0.13]	0.03	0.14*	0.02		
	Moral norm	0.10	[0.04, 0.17]	0.03	0.22**	0.04		
	Self-verification	0.05	[-0.06, 0.16]	0.06	0.06	0.00		
	Self-enhancement	0.13	[-0.03, 0.30]	0.08	0.12	0.01		

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. All p values are two tailed.

Associations between Facebook false self-presentation and mental health

Research question 3. Pearson's correlation analysis was used to investigate mental health associations for both lying and liking false self-presentation behaviors on Facebook using a Bonferroni adjusted significant level of 0.01 to control family-wise error rate⁴³ (Table 7). There was a significant relationship between anxiety and lying behaviors and a significant relationship between stress, anxiety, depression, and liking behaviors.

Discussion

The analysis of the items included in the FFSBI revealed two distinct types of false self-presentation behaviors: lying behaviors (i.e., status updating and profile details) and liking behaviors (i.e., liking posts). As Facebook post frequency was fewer than once per week and profile creation is generally completed once with minimal modifications, lying behaviors are likely engaged in rarely and comprise relatively static behaviors. However, users are interacting on Facebook on average 14 hours per week and, as they are not spending this time posting, this time is likely spent passively scrolling through their Facebook feed and liking posts. Liking behaviors are, then, more active and provide greater opportunities for false self-presentation. Indeed, this study found liking behaviors were performed significantly more than lying behaviors. In addition, false self-presentation to be funny, deceive, and protect privacy was deemed more acceptable on Facebook than in real life, suggesting that, unlike presenting a true self online, presenting a false self online may not be viewed in the same way as presenting a false self

in real life. Furthermore, previous research found that emerging adults are aware of and use privacy settings frequently⁴⁴; therefore, the increased acceptability of presenting a false self on Facebook to protect privacy may partially account for this discrepancy.

Moral norms predicting lying behavior and moral norms and group norms predicting liking behaviors are consistent with research that these norms can influence young people's online behavior.²⁶ Unexpectedly, self-esteem was a significant positive predictor of liking behaviors, contrary to research suggesting those with high self-esteem present the real self¹⁹ and those with low self-esteem present a false self.^{4,5} The findings in the present study are consistent with some previous research that has found those with high self-esteem are more willing to call attention to the self than those with low self-esteem, both for self-presentation online⁴⁵ and offline.¹⁷ In the context of Facebook, it may be that those with higher self-esteem engage in indiscriminate "liking" behaviors simply to garner attention. Neither self-enhancement nor self-verification was a significant predictor of lying or liking behaviors, possibly given that previous studies used analysis of people's status updates to identify the presence of these strategies,²³ whereas this study relied on self-report through which users may not be able to accurately gauge their own motivations. Finally, age was a significant negative predictor of liking behaviors, indicating younger adults participate more in false self-presentation behaviors.

Increased anxiety was associated with greater performance of lying and liking behaviors consistent with research that found false self-presentation on Facebook increased levels of anxiety over time.³⁰ Both depression and stress were associated with greater performance of liking behaviors,

TABLE 7. MEANS, STANDARD DEVIATIONS, RELIABILITIES, BIVARIATE CORRELATIONS, AND CONFIDENCE INTERVALS FOR OUTCOMES OF LYING AND LIKING SUBSCALE OF FACEBOOK FALSE SELF-PRESENTATION BEHAVIORS INVENTORY

	M	SD	α	Lying		Liking	
				r	Ba 95% CI	r	Ba 95% CI
Well-being	4.95	0.76	0.84	-0.11	[-0.25, 0.04]	-0.17*	[-0.30, -0.02]
Depression	12.27	5.06	0.92	0.12	[-0.02, 0.24]	0.23**	[0.09, 0.35]
Anxiety	10.79	3.68	0.81	0.18**	[-0.02, 0.33]	0.27***	[0.13, 0.41]
Stress	13.43	4.35	0.86	0.07	[-0.05, 0.18]	0.30***	[0.17, 0.41]

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. All p values are two tailed.

α , Cronbach's alpha; r , Pearson's correlation.

echoing research that found initial levels of depression predicted increases in false self-presentation⁴⁶ and research suggesting that presenting a true self on Facebook leads to less stress.⁷ Finally, well-being was not significantly related to greater performance of lying or liking behaviors in contrast with research that found false self-presentation on Facebook was associated with low levels of well-being.⁵ Overall, findings indicate it is liking rather than lying behaviors that are performed more often and associated with more detrimental mental health, with both behavior types informed by moral considerations. However, it should be noted that, as most users were found to not engage in false self-presentation on Facebook, it follows that presenting a true self on Facebook appears to be normative. Future research, then, should investigate more explicitly the relationship between well-being and true self-presentation on Facebook.

This study was the first to create a preliminary inventory of Facebook false self-presentation behaviors generated in conjunction with users. Results suggested moral norms were the most important predictor of false self-presentation behavior and the role of morality in this form of online decision making should be examined further in future studies. Given the modest amount of variance accounted for especially in lying behaviors, future research should include other factors, such as personality and need to belong, that may contribute to this less performed but arguably more deceptive form of false self-presentation. This study also found it was more acceptable to use false self-presentation to deceive, be funny, and protect privacy on Facebook than in real life. It was suggested that the increased acceptability of this behavior online may be partially due to privacy concerns. Given that the sample comprised mostly university students, future research should aim to broaden the emerging adult sample to incorporate more non-students. Furthermore, validation of this preliminary inventory is required with potential modification given the ever-changing online environment and functionality. Understanding the determinants of people's decisions to present a false self online is important, especially if future research findings provide cumulative evidence that even "milder" forms of false self-presentation, such as false liking behaviors, co-occur with negative mental health outcomes for those who engage in it more frequently.

Author Disclosure Statement

No competing financial interests exist.

References

1. Lampe C, Ellison N, Steinfield C. (2006). A face(book) in the crowd: social searching vs. social browsing. In: *Proceedings of the 2006 20th anniversary conference on computer supported cooperative work (CSCW 2006)*. New York, NY: ACM Press, pp. 167–170.
2. Patterson M. (2015). Social media demographics to inform a better segmentation strategy. <http://sproutsocial.com/insights/new-social-media-demographics/> (accessed May 4, 2016).
3. Zhao S, Grasmuck S, Martin J. Identity construction on Facebook: digital empowerment in anchored relationships. *Computers in Human Behavior* 2008; 24:1816–1836.
4. Gil-Or O, Levi-Belz Y, Turel O. The "Facebook-self": characteristics and psychological predictors of false self-presentation on Facebook. *Frontiers in Psychology* 2015; 6:99.
5. Michikyan M, Dennis J, Subrahmanyam K. Can you guess who I am? Real, ideal, and false self-presentation on Facebook among emerging adults. *Emerging Adulthood* 2015; 3:55–64.
6. Reinecke L, Trepte S. Authenticity and well-being on social network sites: a two-wave longitudinal study on the effects of online authenticity and the positivity bias in SNS communication. *Computers in Human Behavior* 2014; 30: 95–102.
7. Grieve R, Watkinson J. The psychological benefits of being authentic on facebook. *Cyberpsychology, Behavior and Social Networking* 2016; 19:42–425.
8. Wood AM, Linley PA, Maltby J, et al. The authentic personality: a theoretical and empirical conceptualization and the development of the authenticity scale. *Journal of Counseling Psychology* 2008; 55:385–399.
9. Stanton K, Ellickson-Larew S, Watson D. Development and validation of a measure of online deception and intimacy. *Personality and Individual Differences* 2016; 88: 187–196.
10. Back MD, Stopfer JM, Vazire S, et al. Facebook profiles reflect actual personality, not self-idealization. *Psychological Science* 2010; 21:372–374.
11. Boyd D, Hargittai E. Facebook privacy settings: who cares? *First Monday* 2010; 15.
12. Acquisti A, Grossklags J. Privacy and rationality in individual decision making. *IEEE Security and Privacy* 2005; 3:26–33.
13. Park YJ. Offline status, online status: reproduction of social categories in personal information skill and knowledge. *Social Science Computer Review* 2013; 31:680–702.
14. Park YJ. Affect, cognition and reward: predictors of privacy protection online. *Computers in Human Behavior* 2012; 28:1019–1027.
15. Tufekci Z. Can you see me now? Audience and disclosure regulation in online social network sites. *Bulletin of Science, Technology & Society* 2008; 28:20–36.
16. Young AL, Quan-Haase A. Privacy protection strategies on Facebook. *Information, Communication & Society* 2013; 16:479–500.
17. Baumeister RF, Tice DM, Hutton DG. Self-presentational motivations and personality differences in self-esteem. *Journal of Personality* 1989; 57:547–579.
18. Ellison NB, Steinfield C, Lampe C. The benefits of Facebook "friends": social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication* 2007; 12:1143–1168.
19. Badanes L, Harter S. (2007) Consistency in working models of attachment: implications for the self-esteem in college students. Poster presented at the biennial meeting of the Society for Research on Adolescence. San Francisco, CA.
20. Fullwood C, James BM, Chen-Wilson CJ. Self-concept clarity and online self-presentation in adolescents. *Cyberpsychology, Behavior and Social Networking* 2016; 19: 716–720.
21. Schlenker BR, Leary MR. Audiences' reactions to self-enhancing, self-denigrating, and accurate self-presentations. *Journal of Experimental Social Psychology* 1982; 18:89–104.
22. Swann WBJ. Self-verification: bringing social reality into harmony with the self. *Social Psychological Perspectives on the Self* 1983; 33–66.

23. Bareket-Bojmel L, Moran S, Shahar G. Strategic self-presentation on Facebook: personal motives and audience response to online behavior. *Computers in Human Behavior* 2016; 55:788–795.
24. Eronen M. Moral argumentation as a rhetorical practice in popular online discourse: examples from online comment sections of celebrity gossip. *Discourse & Communication* 2014; 8:278–298.
25. Marino C, Vieno A, Pastore M, et al. Modeling the contribution of personality, social identity and social norms to problematic Facebook use in adolescents. *Addictive Behaviors* 2016; 63:51–56.
26. Mackay SA, White KM, Obst PL. Sign and share: what influences our participation in online microvolunteering. *Cyberpsychology Behavior and Social Networking* 2016; 19:257–263.
27. Ziv I, Kiasi M. Facebook's contribution to well-being among adolescent and young adults as a function of mental resilience. *The Journal of Psychology* 2016; 150:527–541.
28. Verduyn P, Lee DS, Park J, et al. Passive Facebook usage undermines affective well-being: experimental and longitudinal evidence. *Journal of Experimental Psychology* 2015; 144:480.
29. Harter S, Waters PL, Whitesell NR. Lack of voice as a manifestation of false self-behavior among adolescents: the school setting as a stage upon which the drama of authenticity is enacted. *Educational Psychologist* 1997; 32:153–173.
30. Weir KF, Jose PE. The perception of false self scale for adolescents: reliability, validity, and longitudinal relationships with depressive and anxious symptoms. *British Journal of Developmental Psychology* 2010; 28:393–411.
31. Baumeister RF, Hutton DG. (1987) Self-presentation theory: self-construction and audience pleasing. In Mullen B, Goethals GR, eds. *Theories of group behavior*. New York, NY: Springer New York, pp. 71–87.
32. Herring SC, Kapidzic SK. (2015) Teens, gender, and self-presentation in social media. In Wright JD, ed. *International Encyclopedia of social and behavioral sciences*. 2nd ed. Oxford: Elsevier.
33. Mimoun M, Ammar O. (2013) Brands and strategies of self-presentation on Facebook. In Cornelissen G, Reutskaja E, Valenzuela A, eds. *E—European advances in consumer research*, Volume 10. Duluth, MN: Association for Consumer Research, pp. 95–97.
34. Marichal J. Political Facebook groups: micro-activism and the digital front stage. *First Monday* 2013; 18.
35. Rosenberg M. (1965) *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
36. Wiesenfeld BM, Swann WB, Brockner J, et al. Is more fairness always preferred? Self-esteem moderates reactions to procedural justice. *The Academy of Management Journal* 2007; 50:1235–1253.
37. Hamilton K, White KM. Social influences and the physical activity intentions of parents of young-children families: an extended theory of planned behavior approach. *Journal of Family Issues* 2012; 33:1351–1372.
38. White KM, O'Connor EL, Hamilton K. In-group and role identity influences on the initiation and maintenance of students' voluntary attendance at peer study sessions for statistics. *British Journal of Educational Psychology* 2011; 81:325–343.
39. Ryff CD. Happiness is everything, or is it? Explorations on the meaning of psychological wellbeing. *Journal of Personality and Social Psychology* 1989; 57:1069–1081.
40. Keyes CLM, Shmotkin D, Ryff CD. Optimizing well-being: the empirical encounter of two traditions. *Journal of Personality and Social Psychology* 2002; 82:1007–1022.
41. Lovibond SH, Lovibond PF. (1995) *Manual for the depression anxiety stress scales*. Sydney: Psychology Foundation.
42. Tabachnick BG, Fidell LS. (2013) *Using multivariate statistics*. Boston: Pearson Education.
43. Field AP. (2014) *Discovering statistics using IBM SPSS statistics: and sex and drugs and rock 'n' roll*. London: SAGE.
44. Van den Broeck E, Poels K, Walrave M. Older and wiser? Facebook use, privacy concern, and privacy protection in the life stages of emerging, young, and middle adulthood. *Social Media+Society* 2015; 1.
45. Kim M, Kwon KN, Lee M. Psychological characteristics of Internet dating service users: the effect of self-esteem, involvement, and sociability on the use of Internet dating services. *Cyberpsychology Behavior and Social Networking* 2009; 12:445–449.
46. Higgins ET. Self-discrepancy: a theory relating self and affect. *Psychological Review* 1987; 94:319–340.

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Appendix

APPENDIX TABLE A1. INDIVIDUAL ITEMS FOR EACH VARIABLE AND RESPONSE SCALES IN MAIN QUESTIONNAIRE

Variable	Item	Scoring or Rating
Rosenberg self-esteem scale ³⁵	On the whole, I am satisfied with myself. At times I think I am no good at all. I feel that I have a number of good qualities. I am able to do things as well as most other people. I feel I do not have much to be proud of. I certainly feel useless at times. I feel that I'm a person of worth, at least on an equal plane with others. I wish I could have more respect for myself. All in all, I am inclined to feel that I am a failure. I take a positive attitude toward myself.	[1] <i>strongly agree</i> to [4] <i>strongly disagree</i> (all items)
Self-presentation strategies		
Self-verification	I want others to understand who I am. I want others to see me as I see myself.	[1] <i>not at all</i> to [5] <i>very much</i> (all items)
Self-enhancement	I want others to have a positive attitude toward me. I want others to see me as talented. I want others to respect me. I want others to see that I am able to accomplish what I do.	[1] <i>not at all</i> to [5] <i>very much</i> (all items)
Norms		
Group norms	Most of the people important to me engage in false self-presentation on Facebook. Most of my friends engage in false self-presentation on Facebook.	[1] <i>strongly disagree</i> to [7] <i>strongly agree</i> (all items)
Moral norms	I believe it is morally acceptable to engage in false self-presentation on Facebook. It is consistent with my principles to engage in false self-presentation on Facebook.	[1] <i>strongly disagree</i> to [7] <i>strongly agree</i> (all items)
Motive acceptability		
Deceive	To what extent do you think false self-presentation on Facebook is acceptable to deceive others? To what extent do you think false self-presentation is acceptable in real life to deceive others?	[1] <i>not at all</i> to [6] <i>very great extent</i> (all items)
Funny	To what extent do you think false self-presentation on Facebook is acceptable to be funny? To what extent do you think false self-presentation in real life is acceptable to be funny?	[1] <i>not at all</i> to [6] <i>very great extent</i> (all items)
Privacy	To what extent do you think false self-presentation on Facebook is acceptable to protect your privacy? To what extent do you think false self-presentation in real life is acceptable to protect your privacy?	[1] <i>not at all</i> to [6] <i>very great extent</i> (all items)
Psychological well-being ⁴⁰	Maintaining close relationships has been difficult and frustrating for me. People would describe me as a giving person, willing to share my time with others. I have not experienced many warm and trusting relationships with others. I like most parts of my personality. When I look at the story of my life, I am pleased with how things have turned out so far.	[1] <i>strongly disagree</i> to [7] <i>strongly agree</i> (all items)

(continued)

APPENDIX TABLE A1. (CONTINUED)

<i>Variable</i>	<i>Item</i>	<i>Scoring or Rating</i>
Depression, anxiety, and stress ⁴¹	In many ways I feel disappointed about my achievements in life.	[1] <i>did not apply to me at all</i> [4] <i>applied to me very much, or most of the time</i> (all items)
	I tend to be influenced by people with strong opinions.	
	I have confidence in my own opinions, even if they are different from the way most other people think.	
	I judge myself by what I think is important, not by the values of what others think is important.	
	For me, life has been a continuous process of learning, changing, and growth.	
	I think it is important to have new experiences that challenge how I think about myself and the world.	
	I gave up trying to make big improvements or changes in my life a long time ago.	
	The demands of everyday life often get me down.	
	In general, I feel I am in charge of the situation in which I live.	
	I am good at managing the responsibilities of daily life.	
	Some people wander aimlessly through life, but I am not one of them.	
	I live life one day at a time and don't really think about the future.	
	I sometimes feel as if I've done all there is to do in life.	
	I couldn't seem to experience any positive feeling at all.	
	I found it difficult to work up the initiative to do things.	
	I felt that I had nothing to look forward to.	
	I felt downhearted and blue.	
Anxiety	I was unable to become enthusiastic about anything.	[1] <i>did not apply to me at all</i> [4] <i>applied to me very much, or most of the time</i> (all items)
	I felt I wasn't worth much as a person.	
	I felt that life was meaningless.	
	I was aware of dryness of my mouth.	
	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion).	
	I experienced trembling (e.g., in the hands).	
	I was worried about situations in which I might panic and make a fool of myself.	
	I felt I was close to panic.	
Stress	I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat).	[1] <i>did not apply to me at all</i> [4] <i>applied to me very much, or most of the time</i> (all items)
	I felt scared without any good reason.	
	I found it hard to wind down.	
	I tended to over react to situations.	
	I felt that I was using a lot of nervous energy.	
	I found myself getting agitated.	
	I found it difficult to relax.	
	I was intolerant of anything that kept me from getting on with what I was doing.	
	I felt that I was rather touchy.	

Note. Rosenberg self-esteem scale is measured using the original four-point scale.