

Associations of Self-Presentation on Facebook with Mental Health and Personality Variables: A Systematic Review

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Abstract

Many investigations of the associations of self-presentation on Facebook with mental health and personality variables exist, but their findings have not yet been synthesized. We therefore carried out a narrative synthesis of 21 observational studies (combined $N=7,573$) obtained from a systematic search of four academic databases. Significant self-presentation associations were yielded for self-esteem, perceived social support, social anxiety, well-being, depression, bipolar/mania, stress, self-consciousness, and insecure attachment. Significant associations were also yielded for all of the big five personality variables and narcissism. The clearest trends—based on the number of times significant associations were yielded across included studies—were as follows: (1) inauthentic self-presentation was consistently associated with low self-esteem and elevated levels of social anxiety; (2) inauthentic self-presentation was consistently more likely to occur in people high in neuroticism and narcissism; and (3) authentic/positive self-presentation was consistently associated with increased levels of self-esteem and perceived social support. The assessment of online self-presentation may offer clinicians important insights into how clients are functioning in relation to various domains of mental health and personality. For example, clients who present inauthentic versions of themselves on Facebook could be experiencing social anxiety or have maladaptive personality traits such as neuroticism and narcissism, all of which could be targeted in intervention.

Keywords: self-presentation, impression management, Facebook, social media, mental health, personality

Introduction

SELF-PRESENTATION REFERS to the act of conveying—accurate or inaccurate—information about oneself to other people.¹ The concept was famously expounded upon by sociologist Erving Goffman who equated social life to a stage in which people are like actors who put on performances (or play roles) in front of given audiences: the principal goal of the performance is to display a desired impression of one's identity that is perceived as acceptable and credible to the audience.² The pioneering psychologist Carl Rogers also addressed self-presentation: he posited that many psychological problems arise as a result of incongruence between the innately driven real self and the aspirational ideal self that is presented to others and linked to internalized conditions of worth.^{3,4} The psychoanalyst D.W. Winnicott also explored self-presentation with his true self versus false self distinction: the former describes a sense of self based on spontaneous authentic experiences; the latter encompasses a deliberate façade displayed in front of others, operating as a

defense mechanism.⁵ More recently, supporting his social discrepancy theory, psychologist Edward Tory Higgins experimentally demonstrated that discrepancies between the actual/own self state and ideal self states can lead to dejection-related emotions such as disappointment and dissatisfaction.⁶ What all of the above theories have in common is the notion that the publicly displayed self is—to some degree—contrived or inauthentic.

In recent years, a plethora of studies have utilized the self-presentation theory to make sense of how people engage in self-presentation on social media websites.^{7–10} It is worth noting that self-presentation on social media is widely regarded as a specific type of self-disclosure and various tenets of self-disclosure theory such as authenticity, self-enhancement, and intentionality have been applied to the concept.¹¹ The terms self-presentation and self-disclosure are often used interchangeably within the context of social media research¹¹; thus, for simplicity—apart from in Tables 1 and 2, which display more specific information—we hereafter refer exclusively to the former term.

TABLE 1. STUDY CHARACTERISTICS AND ASSOCIATIONS OF INAUTENTIC SELF-PRESENTATION WITH MENTAL HEALTH AND PERSONALITY (AT $P < 0.05$)

Study; Country	Sample (mean age; SD)	N	%f	Qual (NO)	Self-presentation operationalization (measure)	Positive (\varnothing), negative (\S) and insignificant (\emptyset) associations ^a with															
						Mental health variables					Personality variables										
						Ax	Socax	DE-P	BP/M	Stress	InsAtt	Self-est	Soc sup	WB	O	C	E	A	N	Narc	
Bodroza and Jovanovic ¹⁶ ; Serbia	FB users (26.9; 6.4)	804	79	6	Ideal self/desired impression (psychosocial aspects of FB use)																
Buffardi and Campbell ⁴⁰ ; USA	FB users (18.9; 1.1)	156	64	5	Superficial self-promotion in text and photos; rated by observers																
Gil-Or et al. ⁹ ; Israel	FB users (27.0; 6.1)	258	75	6	False FB self (perception of false self scale)																
Grieve and Watkinson ²⁶ ; Australia	FB users (23.9; 8.1)	164	80	6	True v presented self: Euclidean differences ^b (HEXACO-60)																
Krämer et al. ¹⁷ ; Germany	FB users (27.3; 8.0)	297	69	4	Impression management perceived by users (5-item scale)																
Marder et al. ¹² ; UK	FB users (22.0; 5.5)	379	69	5	Audience influence on how one ought to be (11-item scale)																
Mehdizadeh ⁸ ; Canada	College (22.2; 1.9)	100	50	5	Superficial self-promotion rated by study author (5-item scale)																
Michikyan et al. ³² ; USA	FB users (21.9; 2.7)	261	75	6	Ideal and false self (self-presentation on FB Questionnaire)																
Michikyan et al. ³¹ ; USA	FB users (21.9; 2.7)	261	75	6	Ideal and false self (self-presentation on FB Questionnaire)																
Rosen et al. ³⁸ ; USA	FB users (30.7; 12.3)	1,143	60	4	Impression management (3-item scale)																
Seidman ³⁵ ; USA	College (19.5; 1.6)	184	72	6	Ideal self (5-item scale)																
Stanton et al. ³⁶ ; USA	Outpatient (46.5; 1.6)	410	72	5	Online deception (measures of online deception and intimacy)																

^aIf a cell is blank, it means that the specified variable was not examined in a given study.

^bEuclidean distances represent the sum of squared distances between vectors; in this study, low Euclidean distance scores represent high congruence between the true self and the presented self on Facebook, while high Euclidean distance scores represent incongruence between these selves.

Mental health: Ax = Anxiety; Soc ax = Social anxiety; DEP = Depression; BP/M = Bipolar/Mania; Ins Att = Insecure Attachment; Self-est = Self-esteem; Soc sup = Perceived Social Support; WB = Well-being. Personality: O = Openness; C = Conscientiousness; E = Extraversion; A = Agreeableness; N = Neuroticism; Narc = Narcissism. Other: % f = Percentage of females in sample; FB = Facebook; NO = Newcastle-Ottawa Scale (the maximum score is 10); Qual. = Study quality;

Most of the studies investigating self-presentation on social media have focused on the world's most popular social media website—Facebook—which has over 1.8 billion monthly active users (<http://newsroom.fb.com/company-info>). Facebook's popularity is probably linked to the various social needs that it serves: it enables people to stay in contact with family and friends and foster new relationships; it provides a platform for sharing of thoughts, emotions, experiences, interests, news, and whereabouts; and it provides an arena for self-presentation where people can construct and maintain online personas.¹² Interestingly, the configuration processes afforded by Facebook offer people a considerable degree of customization and control over self-presentation (e.g., on a Facebook profile page) that is arguably far greater than that offered in offline interactions where undesired impressions are more difficult to hide.¹³ It thus appears to be relatively easy to present an inauthentic version of oneself on the platform, in line with the idealized virtual-identity hypothesis.¹⁴ On the other hand, Facebook provides a nonymous (i.e., the opposite of anonymous) setting where false depictions of oneself may be difficult to hide from friends, family, and colleagues and especially in the context of relationships originating in offline settings.^{8,15} Furthermore, a seminal review concluded—based on the synthesis of studies investigating the accuracy of personality impressions displayed on Facebook profile pages—that although some self-enhancement may occur, Facebook profile owners generally portray a fairly accurate representation of their offline identity.¹⁵ This line of thought has been referred to as the extended real-life hypothesis.¹⁴

Notwithstanding the conflicting theories above, it seems clear that self-presentation on Facebook is a clinically relevant phenomenon: as the present systematic review will demonstrate, several studies have demonstrated its associations with a number of mental health and personality variables. For example, findings from observational studies indicate that inauthentic self-presentation on Facebook may be linked to low self-esteem,⁹ elevated social anxiety,¹⁶ and the maladaptive personality traits of neuroticism¹⁶ and narcissism.¹⁷ The review synthesizes findings relating to these self-presentation associations, as doing so may inform clinical practice. Its objectives are to (1) identify mental health and personality variables associated with self-presentation on Facebook; (2) interpret arising trends in self-presentation associations; (3) investigate the operationalization of self-presentation in included studies; and (4) explore theoretical frameworks underpinning self-presentation in included studies.

Methods

Review design

The systematic review was designed in accordance with the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement, which includes 27 items pertaining to the reporting of content, including the title, abstract, methods, results, discussion, and funding.¹⁸ The PRISMA statement is endorsed by over 170 peer-reviewed journals in the health sciences.¹⁹

Eligibility criteria for study selection

1. Participants: No restrictions were applied here; it was expected that most studies would have general population samples (e.g., college students).

2. Self-presentation on Facebook: Studies had to investigate self-presentation or closely related concepts (e.g., impression management; presentation of the ideal self, and self-disclosure) within the context of Facebook.
3. Clinical correlates of self-presentation: Studies had to examine either mental health or personality variables. We applied a broad and flexible definition of mental health because we anticipated that it would be investigated from various angles in existing research. We principally defined personality using the widely accepted five-factor model²⁰; we also included studies investigating narcissism because this maladaptive trait has been widely reported within the context of social media.²¹
4. Measures: To safeguard the comparability of the findings across included studies, mental health and/or personality had to be measured through self-report. It was not advantageous to place a similar restriction on the measurement of self-presentation because relatively few measures of the concept exist.
5. Manuscript: To safeguard the comparability of the findings across included studies, we only included observational and experimental studies published in peer-reviewed journals; qualitative studies were excluded. No restrictions were applied based on year of publication.

Literature search and data extraction

With the use of appropriate Boolean operators and subject headings, the first author (C.T.) searched four databases: *PsycINFO*; *Academic Search Complete*; *Social Sciences Citation Index*; and *Social Sciences Full Text*. In this study, search terms relating to self-presentation (i.e., “impression” OR “identity” OR “self-presentation” OR “real self” OR “ideal self” OR “false self” OR “true self”) were combined with “Facebook” and aspects of mental health and personality (i.e., “depress*” OR “anxiety” OR “well-being” OR “mood” OR “stress” OR “self-esteem” OR “self-consciousness” OR “distress” OR “loneliness” OR “body image” OR “personality” OR “narcissism” OR “emotion*” OR “openness” OR “conscientiousness” OR “extraversion” OR “extroversion” OR “agreeableness” OR “neurotic*”). Additional records were obtained from reference lists of identified studies and through a Google search. The last search was completed by the end of March 2017. Independent screening of 20 percent of abstracts was undertaken by the second author (G.O.R.). When we disagreed regarding the screening outcome of an abstract, it was included in screening at full-text level. Data were managed by the first author using EndNote X7 (Thomson Reuters Corp.) and word processing software. For each study, the first author recorded information concerning setting, demographics, study design, self-presentation, mental health, personality, theoretical framework, control variables, and study quality.

Study quality assessment

As nearly all of the included studies were cross sectional in design, we decided to assess their quality using the Newcastle–Ottawa Scale (NOS) for cross-sectional studies.^{22,23} In this study, the study quality is scored within the following domains: selection of study groups (four items:

representativeness of the sample; sample size; nonrespondents; and ascertainment of exposure); comparability (one item: control for important confounding factors); and outcome (two items: assessment of outcome and statistical test). The NOS uses a star system for scoring study quality and the maximum possible score is 10 (although there are seven items, two stars can be awarded for ascertainment of exposure, comparability, and assessment of outcome).²²

Data analysis/synthesis

Owing to heterogeneity in research questions, sample compositions, and operationalization of variables, a meta-analysis was not possible. A narrative synthesis was deemed the most appropriate method of data analysis: its tools of synthesis include textual descriptions of studies, clustering of data, tabulation, transforming data into a common rubric, vote counting as a descriptive tool, and content analysis.²⁴

Results

Study selection

The literature search flow is displayed in Figure 1. After removing duplicates, 504 studies were screened. There was a 94.2 percent agreement rate between the authors in screening outcomes. Twenty-one studies were ultimately included in the review.^{8,9,12,16,17,25-40}

Study characteristics

Study characteristics are summarized in Tables 1 and 2. All, but one, of the studies were published from the year 2010

onward. All but one study had a general population sample. Sample sizes ranged from 100 to 1,143, totaling 7,573 across the studies. All but one study had predominantly female participants; mean ages ranged from 15 to 45. Overall study quality was generally fair: the mean score of a possible 10 was 5.4 ($SD=0.72$) and no studies scored above 7.

Mental health and personality variables associated with self-presentation

As indicated in Tables 1 and 2, significant self-presentation associations were yielded for the following mental health variables: self-esteem ($k=6$); perceived social support ($k=4$); social anxiety ($k=2$); well-being ($k=2$); depression ($k=1$); bipolar/mania ($k=1$), stress ($k=1$); self-consciousness ($k=1$); and insecure attachment ($k=1$). An association was not yielded for anxiety in the one study that examined it. Significant self-presentation associations were yielded for the following personality variables: openness ($k=3$); conscientiousness ($k=3$); extraversion ($k=3$); agreeableness ($k=2$); neuroticism ($k=5$); and narcissism ($k=4$).

Categorization of self-presentation

Differing operationalization of self-presentation influenced the directionality of its associations with mental health and personality variables. Therefore, we decided to summarize trends in these associations in two (crude) categories: (1) inauthentic self-presentation on Facebook ($k=12$) and (2) authentic/positive self-presentation on Facebook ($k=9$). The former broadly represented the presentation of a false/ideal self; the latter broadly represented the presentation of a true/

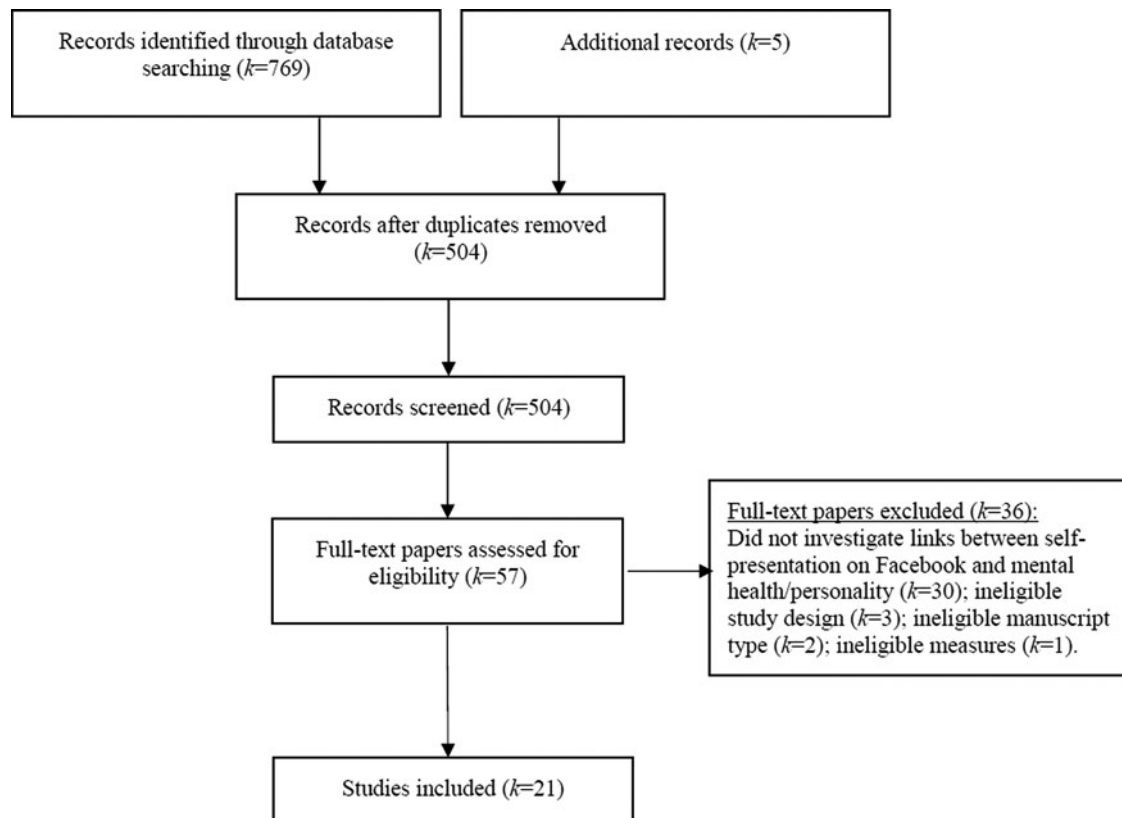


FIG. 1. Literature search flow.

TABLE 3. THEORETICAL FRAMEWORKS RELATING TO SELF-PRESENTATION UTILIZED ACROSS INCLUDED STUDIES

<i>Theory</i>	<i>Crude explanation</i>
Authenticity	Authentic behavior is when one acts in accordance with the real/true self. Self-awareness is a prerequisite to authenticity.
Brunswick Lens Model	People tend to consider every given piece of information about another person to build an impression about that person's personality.
Double Whammy	Online, people often misrepresent themselves and consequently find it difficult to establish meaningful relationships.
Expressing the true self	People are intrinsically motivated to have their true self validated by others, although this is often not possible.
Hierarchical model of self-concept	People can develop their self-concept by displaying and exploring different versions of themselves in various contexts.
Interpersonal interactions	People are likely to be both more forthcoming and honest in the disclosure of information as relationships progress over time.
Malleable online self-presentation	Online self-presentation is unlikely to be stable; it is more likely to be malleable.
Need to belong	The fundamental drive to form and maintain relationships.
Now self and possible self	The now self is an identity established to others; the possible self is an identity unknown to others that can be maintained in various ways.
Positive Illusion theory	Positively skewed perceptions of the self can help people cope with self-threatening situations and promote well-being.
Protective and acquisitive	Protective self-presentation avoids social disapproval; acquisitive self-presentation pursues social approval.
Real self vs. ideal self	The real self represents who one authentically is; the ideal self represents who one would like to be, principally in the eyes of others.
Rich-get-richer	People experiencing little difficulty in offline interactions also benefit the most from online self-presentation.
Self-enhancement	Behavior that is motivated by the goals of maintaining self-worth and maximizing social approval.
Self-presentation (a)	When people seek to display a desired impression of themselves in front of given audiences.
Self-presentation (b)	Self-presentation is a central element in the construction of one's self and efforts to establish a reputation within a social context.
Social comparison	People tend to compare themselves with other people of similar background to evaluate themselves in a variety of domains.
Social role	Social roles are socially constructed by means of a continuous learning process relating to behavior and expectations.
Poor-get-richer	People experiencing difficulties in offline interactions benefit the most from online self-presentation.
True self vs. false self	The true self is spontaneous and authentic; the false self encompasses a deliberate façade displayed in front of others.

For brevity, we provide crude and brief explanations of the theories deployed across included studies.

real self or positive aspects of one's personality or personal competencies.

Self-presentation association trends

Self-presentation association trends across the included studies are visually displayed in Tables 1 and 2 (trends are represented using symbols in the columns on the right-hand side of the tables). Inauthentic self-presentation was associated with low self-esteem in three of three studies investigating this association; it was associated with elevated social anxiety in two of two studies; and it was associated with the personality traits of neuroticism and narcissism in four of four studies in both cases; less clear evidence was yielded for its associations with the remaining mental health and personality variables. Authentic/positive self-presentation was associated with high self-esteem in three of three studies investigating this association; it was also associated with increased perceived social support in three of three studies; less clear evidence was yielded for its associations with the remaining mental health and personality variables.

Operationalization of self-presentation and related theoretical frameworks

As indicated in Tables 1 and 2, self-presentation was operationalized in various ways: most frequently, reference was made to self-presentation itself, the real/ideal self, the true/false self, self-promotion, honesty, authenticity, and impression management. Some studies used psychometrically tested self-presentation measures, whereas others used newly created scales. Various theoretical frameworks underpinned the exploration of self-presentation across included studies (Table 3).

Discussion

Summary of main findings

Our review of 21 studies identified a number of mental health and personality variables that appear to be associated with self-presentation on Facebook. The clearest trends—based on the number of times significant associations were yielded across included studies—were as follows: (1)

inauthentic self-presentation was consistently associated with low self-esteem and elevated levels of social anxiety; (2) inauthentic self-presentation was consistently more likely to occur in people high in neuroticism and narcissism; and (3) authentic/positive self-presentation was consistently associated with increased levels of self-esteem and perceived social support.

Limitations and strengths

All studies but one were published from the year 2010 onward, highlighting the novelty of the research topic. Perhaps owing to this novelty, there was wide heterogeneity in operationalizations of self-presentation as well as theories underpinning the concept: this limits the comparability of findings across studies. Our categorization of the findings by type of self-presentation operationalization was necessary to identify broad trends in the available data, but the arising categories were admittedly crude. More nuanced self-presentation categorizations (e.g., differentiating the false self from the ideal self) would have likely arisen if more published studies on the topic were available for analysis. The pooled sample size of over 7,500 adds validity to the findings, but overall study quality was no better than fair. The findings are most generalizable to late adolescents and young adults in the general population (e.g., college students), less so to adults aged over 25, and clinical populations. All but one study had predominantly female participants and this partly reflects Facebook usage patterns: a US nationally representative survey of online adults found that 83 percent of females use Facebook compared with 75 percent of males.⁴¹

Comparisons with other studies

This was the first systematic review to directly investigate the associations of online self-presentation with mental health and personality variables; comparisons with similar reviews are therefore not possible. It may be informative though to contextualize the main findings with those from relevant studies that did not meet the review's eligibility criteria.

The consistent associations of both inauthentic self-presentation with low self-esteem and authentic/positive self-presentation with increased self-esteem are in line with findings from relevant social media studies^{42–45} and previous offline research.⁴⁶ It has been posited that the internalization of both real and imagined audience reactions to self-presentation may impact upon self-esteem⁴⁷ and that inauthentic self-presentation is partly motivated by insecurity and the hope of receiving self-enhancing feedback from audiences.³¹ Moreover, it seems that individuals with high self-esteem are more likely to engage in spontaneous and less contrived self-presentation because audience feedback is less important in their evaluations of self-worth.¹

The consistent associations of both inauthentic self-presentation with elevated social anxiety and authentic/positive self-presentation with perceived social support are also in line with findings from relevant social media studies.^{42,48,49} It has been suggested—in line with the social compensation theory—that Facebook is likely to appeal to people with social anxiety due to the control and opportunities for impression management offered in its communication processes that are less attainable in offline social situations.^{16,50,51} Regarding perceived social support, it has

been proposed that online self-presentation provides an opportunity to align with certain peer groups and compete with others; moreover, authentic self-presentation is more likely to attract more meaningful social connections and shared interests than inauthentic self-presentation.^{27,52}

The consistent positive association of inauthentic self-presentation with neuroticism accords with previous research indicating a positive association of Facebook use with the trait.^{45,53–55} It appears that people high in neuroticism are less inclined to present their real self on Facebook and a plausible hypothesis for this is as follows: neurotic people believe that presenting undesirable aspects of their emotionality online (e.g., anxiety and low mood) may impede their opportunities for online social connection, so they more frequently present an ideal self—free from undesirable emotionality—that is more likely to achieve these connections.^{32,56}

The partial support for the associations of self-presentation with the other big five personality traits reflects the mixed evidence from other relevant social media studies: there appear to be self-presentation associations for these traits, but they may be small in magnitude.^{10,44,53–55,57} The consistent association of inauthentic self-presentation with narcissism accords with previous research linking increased activity on social media to the trait.^{21,40,58} Perhaps people high in narcissism are drawn to social media's opportunities for superficial self-promotion (e.g., through selfies) and shallow relationships that require little emotional attachment.^{8,40}

Implications of the findings for clinical practice and future research

Based on the findings, we conclude that the assessment of online self-presentation may offer clinicians important insights into how clients are functioning in relation to various domains of mental health and personality. For example, clients who present idealized or inauthentic versions of themselves on Facebook could be experiencing social anxiety or have maladaptive personality traits such as neuroticism and narcissism, all of which could be targeted in interventions. Regarding assessment tools, the review identified a number of potentially useful self-report measures such as the Psychosocial Aspects of Facebook Use metric¹⁶ and the Measures of Online Deception and Intimacy³⁶; notably, one study creatively made use of the HEXACO-60 personality metric⁵⁹ to quantify the differences between the true self and the self presented on Facebook.²⁶

To our knowledge, no empirically supported interventions for online self-presentation currently exist; but future interventions could draw on the many theories that have been applied to the concept, especially those that have stood the test of time such as Erving Goffman's theory of impression management² and Rogerian ideas around congruence between the real self and ideal self.³ Such interventions should arguably target people aged 18–25 years in the first instance; this period of emerging adulthood is theorized to be the period of life that offers the most opportunity for identity explorations in self-presentation and other domains.⁶⁰ It is also possible for clinicians to provide simple educational interventions in relation to online self-presentation (e.g., around the link between inauthentic self-presentation and social anxiety).

We are currently in the early stages of developing a group self-development intervention that is related to both online and

offline self-presentation. The intervention teaches emerging adults dialectical skills for expressing emotions and personality (DEEPdown). In DEEPdown, participants learn about their personality and how its expression can change within different social contexts (e.g., online vs. offline, at home vs. at work) as a result of emotional and other considerations (e.g., social expectations). Emotional antecedents and consequences of this expressive change are explored, and participants learn emotional skills related to the expression of personality based on the theories of cognitive-behavioral therapy (CBT), mindfulness, and dialectical behavior therapy (DBT).

Future investigations of online self-presentation are needed within clinical settings to ascertain whether self-presentation's links to mental health and personality are stronger or weaker for people experiencing marked psychological problems. Surprisingly, only a few studies investigated self-presentation associations for the most common psychological problems (i.e., depression and anxiety) and this should be addressed. Finally, further integration of the widely accepted big five personality framework into operationalizations of self-presentation would add credibility to the concept and increase the comparability of findings from studies investigating it.

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