Infinite content, infinitely content

Self-expression in contemporary digital culture

Waterloo, S.F.

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INFINITE CONTENT, INFINITELY CONTENT

Self-Expression in Contemporary Digital Culture

Sophie F. Waterloo
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Self-Expression in Contemporary Digital Culture
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Infinite Content, Infinitely Content: Self-Expression in Contemporary Digital Culture

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## CONTENTS

<table>
<thead>
<tr>
<th>Chapter One</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Introduction</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Two</th>
<th>23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norms of Online Expressions of Emotion</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Three</th>
<th>51</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predictors of Emotional Expressivity on Social Media</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Four</th>
<th>85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Outcomes of Sharing Emotions Online</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Five</th>
<th>107</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity Expressions and Self-Concept Change Online</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter Six</th>
<th>133</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Discussion</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summary</th>
<th>153</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samenvatting</td>
<td>161</td>
</tr>
<tr>
<td>Author contributions</td>
<td>168</td>
</tr>
<tr>
<td>Dankwoord</td>
<td>171</td>
</tr>
<tr>
<td>About the author</td>
<td>177</td>
</tr>
</tbody>
</table>
CHAPTER ONE

General Introduction

Our everyday lives have become inseparable from the digital potentials of self-expression; status updates, snaps, stories, texts, and tweets enable us to share our every thought, feeling or experience with the world, or to closely monitor those of others. These bits and pieces of our digital ‘selfhood’ accumulate on social media platforms, essentially forming online repositories of self. While social media afford us the freedom of limitless self-expressive creativity and instantaneous connectedness, we also sometimes become nostalgic toward the ‘offline’, to the point that we occasionally disconnect or ‘detox’ from social media or take pride in quitting social media entirely.

In popular press, plenty of voices have commented on the shift to a culture of social media consumption we currently find ourselves in. Social media cater to the desire to ‘be recognized’, as it facilitates convenient ways of expressing ourselves for the world to see. Critics argue that a so-called ‘oversharing epidemic’ has emerged (Huffington Post, 2013; Dose, 2016). This disinhibition is reflected in the continuous stream of public self-revelations and rude remarks across social media platforms. In a world where prominent figures have become Twitter trolls (The New Yorker, 2017), Instagram is replete with sexual harassments (Huffington Post, 2015, 2016), and racist slurs populate comment sections (Telegraph, 2016), we could surely doubt whether this convenience of self-expression represents a positive development. Conversely, much of what is shared consists of trite holiday stories and everyday trivialities, and occasional pictures of our cats. We however edit and
polish these messages to portray ourselves as original and exciting. Consequently, we see everyone else having an exceptional life which, as argued, leaves us with an overwhelming fear of missing out (Huffington Post, 2017). Likewise, this development is regarded as dangerously narcissistic (The Guardian, 2016); we are perpetually in search of micro-affirmations and validation through the scoreboard of our online performances (i.e., number of followers, likes, retweets etc.), as we try to establish a sense of self-relevance.

The public concerns that have been voiced stand in contrast with the widespread adoption and continual use of various social media platforms. It seems, on the whole, as if a love-hate relationship has emerged; the oversharing and triviality makes people want to ‘log off’, yet they cannot resist to near-constantly ‘log on’. This all does however hint at a transformation in expressive behavior, and raises some interesting questions: which self-expressions do we actually consider appropriate, who engages in these different types of self-expression, and what are the consequences of self-expression for ourselves? This dissertation aims to contribute to the understanding of self-expression in contemporary digital culture by addressing these questions. Scholars have already shown interest in the expressive behaviors that social media bring forth, and the consequences thereof. Research on social media uses and effects is however still in its infancy, given that (Web 2.0) social media did not gain prominence until around the year 2003 and have been subject to rapid and continuous evolvements ever since (Van Dijck, 2013a). By way of introduction, past and current theoretical perspectives that have taken central positions in the field of social media research are briefly revisited next.

Social Media and Self-Expression
What we say and how we say it defines in part who we are (Goffman, 1956). Self-expression, referring to the verbalization of information related to the self (e.g., thoughts, stories, or feelings) in speech and in writing, is inherently tied to the way individuals wish to be perceived by others. In the pre-digital world, everyday impressions were formed and managed in face-to-face encounters, letter writings or telephone conversations. Today, social media provide convenient spaces in which individuals showcase their personal thoughts, feelings and experiences, as well as manage the impressions others may form of them. Social media constitute Web 2.0 internet-based applications that allow for the creation and exchange of user-
generated content (Kaplan & Haenlein, 2010). Given the centrality of ‘exchange’, social media are argued to service a culture of connectivity through the sharing of expressive and communicative content (Van Dijck, 2013a).

Social media platforms present novel spaces for self-expression, most notably because of the properties that characterize them. As outlined by boyd (2011), interactions sustained by social media are asynchronous, which means that people do not necessarily share and respond to each other in real time and are able to do so beyond geographic constraints. By default, then, the bits of information people express online persist; self-expressions are archived, and as such remain available for others to see long after they have been shared on social media. This offers the possibility for self-expressions to reach a wide spectrum of others (boyd, 2011). At the same time, the scalability that social media interfaces afford does not guarantee enhanced visibility, and may also be used to minimize it. On the contrary, some social media may offer a sense of invisibility, in terms of physicality, due to their reduced-cue setting (McFarland & Ployhart, 2015). Especially in the early days of the internet when communication was solely text-based, exchange of nonverbal cues (either visual or auditory) was hardly possible. This initially led scholars to view computer-mediated communication as impersonal, as it would lack socioemotional content and thereby hinder social connectedness and impression formation (Kiesler, Siegel, & McGuire, 1984; Rice & Love, 1987).

The hyperpersonal view as developed by Walther (1996) runs counter to this impersonal view. He argued that the absence of non-verbal cues does not deter socioemotional content; instead, it leads to more intimate, favorable, and affective exchanges. The hallmark of computer-mediated settings, from this hyperpersonal view, lies in the opportunities to more effectively manage the impressions one wishes to leave on others (Walther, 1996). As individuals are not physically visible to the other and interactions do not require immediate response, users do not necessarily have to worry about their physical appearance and, rather, rely on selective linguistic cues. In turn, this is argued to lead to a (positive) idealization of the other, especially when a commonality with the other is sensed (Walther, 1996). By the same token, one is able to draw up self-expressions such that, selectively, certain self-aspects may be emphasized, embellished or obscured. In their current state, social media’s opportunities for selective self-presentation allows users to express and construct their identities in a manner that has never before been possible.
Theoretically, then, these premises suggest that social media make for an attractive environment to express oneself in. And indeed research has found social media to be rich in personal and self-related content, a phenomenon Castells (2007) has come to define as ‘mass self-communication’. Specifically, compared to face-to-face settings, online settings seemingly create a safe space for frequent and more explicit emotion expressions (e.g., Derks, Fischer, & Bos, 2008). This online disinhibition is partially due to not only the perceived manageability of one’s expressions, but also due to social media’s architecture. After all, social media are not just about listing one’s favorite movies, music, hobbies and other personal details. Rather, many platforms steer performances toward emotional, immediate and intuitive expressions as a result of the emphasis on ‘friending’, ‘liking’, ‘connecting’, and ‘following’, as well as the variety of expressive tools on offer (e.g., Van Dijck, 2013b). In light of this, it is hard to disagree with the proposition that computer-mediated settings, and social media in particular, represent hyperpersonal spaces.

Predictors of Self-Expression Online

Over the past 50 years, the act of self-expression has thoroughly been studied, chiefly in reference to which factors may predict behaviors of self-disclosure and self-presentation. To capture and explain how and why individuals verbally express themselves, research has taken either an individual difference perspective or an interpersonal process perspective (Ignatius & Kokkonen, 2007). The former relies on personality characteristics of the discloser and receiver, while the latter takes into account the social relationship between them as well as the back-and-forth interaction process. The individual difference perspective has been readily extended to social media. Many studies have for instance examined demographics (gender and age) and the Big Five personality traits, representative of five broad dimensions on which individuals differ in their predisposition (extraversion, openness, conscientiousness, agreeableness, and neuroticism), in relation to social media use and disclosure (Utz, Tanis, & Vermeulen, 2012). This research has revealed that not everyone behaves in the same way online. However, as several scholars have noted, empirical attempts at understanding the predictive value of age, gender, and personality on differential online self-expression have so far generated inconclusive results (e.g., Hughes, Rowe, Batey, & Lee, 2012; Ross et al., 2009).
In light of these inconclusive findings, the influential role of the receiver is increasingly acknowledged in research on predictors of social media self-expression. As social media are marked by ‘mass’ self-communication (Castells, 2007), audiences unsurprisingly play a defining role. By and large, social media allow their users to reach a greater number of people compared to offline settings (boyd, 2011). Likewise, one’s self-expressions may be read by a more varied set of people, including strangers. Accordingly, the concept of audience has taken a prominent position in theoretical advancements within social media research in recent years. What scholars have come to term the ‘imagined audience’, seizes on the idea that social media essentially provide little cues as to who really views one’s self expressions (e.g., Litt, 2012). In a similar vein, scholars have noted that on social media different social groups are, often unknowingly, collapsed into one single space, known as a ‘context collapse’ (e.g., Marwick & boyd, 2011). Posting a message on social media intended for friends, for instance, may be read by colleagues and family members as well.

To further decipher relevant predictors of self-expression variations, social media scholars have become rapt in these dualities of public and private, mass and interpersonal. While some social media platforms can be understood as public, and other platforms as private, it is not completely binary. For instance, Facebook presents a more constrained, semi-public platform where users take charge in who to accept as their ‘friends’. Platforms such as Instagram and Twitter are commonly more open in allowing their users to follow and read messages from anyone with an account, unless of course one customizes their privacy settings. In light of the ‘imagined audience’ and ‘context collapse’, the properties of social media platforms have muddled the social contexts in which people perform and express themselves. Social context matters to the extent that people adapt their self-expressions to the audience that is in front of them (e.g., Postmes, Spears, & Lea, 2000; Walther, 1992). Essentially, people present themselves differently to parents, colleagues, best friends, or strangers. Research has already found greater audience size and audience diversity to be associated with increased self-disclosure (Vitak, 2012). These complexities of social context, as such, may potentially impact the way people express themselves online.

The changes in public and private boundaries of sharing, giving rise to unique social contexts, are thus gradually becoming a critical way of looking at social
media platforms and comparing the expressive behaviors found across them. This social context perspective, however, has yet to be integrated with an individual difference perspective. Especially in light of online self-expression, typically involving the sharing of personal and intimate content, the perceived social context may bring about tensions in what information to reveal and what information to conceal (Binder, Howes, & Smart, 2012; Lambert, 2015). Before sharing a specific self-expression, social media users therefore need to consider whether its content is suited for the audience one is able to reach. From an individual difference perspective, not everyone may carry the same perceptions on what is or is not appropriate in a given social context, is as active in sharing personal stories, or maintains equal awareness of their potential audience.

**Consequences of Self-Expression for the Self**

With the hyperpersonal model (Walther, 1996), the scholarly perspective on computer-mediated communication has shifted from negative to positive; instead of impersonal settings ill-suited for relational maintenance and development, online settings are now seen as facilitators of greater conversational intimacy and social connectedness (e.g., Jiang, Bazarova, & Hancock, 2011; Tidwell & Walther, 2002; Valkenburg & Peter, 2009). Nevertheless, much of the public concern articulated in popular press highlight negative consequences of self-expression on social media for the self, such that social media users have become more disinhibited or narcissistic. To date, media effects research in the context of computer-mediated communication has generally taken a reception-oriented approach, referring to a focus on the extent to which (online) content impacts the recipient (Valkenburg, Peter, & Walther, 2016). A steadily emerging line of research now intends to understand how the content that one posts online not only affects the receiver, but also, and maybe more importantly, the sender of that content (e.g., Pingree, 2007; Shah, 2016). Summed up under the heading of ‘self-effects’, the composition and sharing of self-related content may have an effect on the senders’ cognitions, emotions, attitudes, and behaviors (Valkenburg, 2017).

Originally observed in face-to-face settings, expressions about specific aspects of the self may come to further shape how one sees him or herself, which in time could lead to a self-concept change in the direction of the presented self (e.g., Tice, 1992). Likewise, individuals may come to persuade themselves by expressing
a particular alternative opinion (self-persuasion; e.g., Aronson, 1999). Others have found that expressive writing and sharing may lead to improved health or well-being (venting effect; e.g., Pennebaker, 1997; Rimé, 2009). Though still a matter of theoretical contention, two classes of mechanisms seem to underlie such effects (for an overview, see Valkenburg, 2017). First, self-effects result from intrapersonal processes, such that individuals seek internal consistency with their overt behavior. Second, interpersonal processes based on ‘imagined audiences’ have been put forth as important factors that accelerate intrapersonal processes. That is, public behavior may strengthen the need for consistency due to a felt accountability towards an audience. In addition, the anticipation of receiving feedback may increase attention towards a written message (Pingree, 2007), and obtaining actual feedback may in turn stimulate internal processing of the contents of one’s message (Pennebaker & Chung, 2011). Again, this underscores the relevance of social context, specifically the differentiation between public and private, not only in shaping self-expression, but also in the subsequent effects on the self.

For social media, the after-effects of specific self-expressions on the sender have so far received little attention. Given that self-expression on social media is more frequent and more public, Valkenburg (2017) contends that there may be more room for online self-effects to surface. The control that social media afford over one’s self-expressions may, for one, activate intrapersonal mechanisms. The scalability that characterizes social media, along with the idea of an ‘imagined audience’, may further stimulate the internal processes that give rise to self-effects. In light of the novelty and dynamic growth of social media, self-effects in the context of social media are deserving of more systematic study which will in turn, as noted by Valkenburg (2017), facilitate a better understanding of reception-effects. All in all, the literature has yet to establish a clear perspective on what self-effects manifest online, in which settings these are more or less likely to occur, and whether such effects are beneficial or damaging for the self.

Overview of this Dissertation
Despite the body of knowledge that has accumulated since the quick rise of social media, there are a few shortcomings worth addressing. Two key issues have been identified in the literature. First, much empirical work has relied on broader-level conceptualizations of online expressive behaviors, as well as potential predictors
and consequences in relation to them. For instance, many studies have looked at general self-disclosure online, even though self-disclosures may vary considerably in the personal topics one addresses (e.g., thoughts, feelings, goals, likes or dislikes etc.; Ignatius & Kokkonen, 2007). Another key issue has been the assumption that behavioral findings may generalize to social media as a monolithic entity. Clearly, not all social media are equal, and each platform lends itself to different uses and activities. The different algorithms, protocols and default (public or privacy) settings implemented in the interfaces of social media platforms, as argued, contribute to unique social contexts (Van Dijck, 2013b). To these points, several scholars have declared a need for more specificity in variables under study, as well as a need for more comparative research between platforms (e.g., Hughes et al., 2012; Ross et al., 2009; Van Dijck, 2013b).

Research would thus benefit from a more refined approach to the study of online self-expression, which in this dissertation is accomplished by looking at specific types of self-expression: Expressions of emotion (sadness, anger, disappointment, worry, joy and pride) and selective expressions related to self-concept (extraversion and introversion). As highlighted by the hyperpersonal model and subsequent research, social media foster more intimate and personal expressions of self. The expression of emotions on social media is therefore highly relevant, yet surprisingly understudied (e.g., Derks et al., 2008; Lin, Tov, & Qiu, 2014). The possibilities for selective self-presentation on social media further suggest that identity expressions prevail. To fully grasp specific patterns of self-expressive behaviors on social media, this dissertation first examines prevailing normative perceptions on self-expression, which, remarkably, have not yet been considered in relation to emotion expressions online. In light of the individual difference perspective, these norms will subsequently be modeled in relation to specific personality traits to gain thorough insights into predictors of frequent emotion expression. With the aim to contribute to the emerging line of research on ‘self-effects’, this dissertation additionally seeks to analyze the specific self-effects of emotion expression on emotion, and selective identity expressions on users’ perceived self-concept.

In like manner, the above outlined study aims are examined across different platforms. By taking such a comparative approach, this dissertation acknowledges the unique social contexts that platforms give rise to. Much of the work in this dissertation focuses on social media platforms that have maintained consistent
popularity over the last few years: Facebook, Twitter, Instagram, and WhatsApp. In doing so, we are able to better understand differences in public and private social contexts, and the psychology that surrounds individual’s social media use. Throughout the dissertation, the focus will be on (young) social media users between the ages of 15 and 35, as young individuals are known to represent the most avid and active users of social media and their expressive features (e.g., Coyne, Padilla-Walker, & Howard, 2013).

To summarize, Chapter 2 sets out to examine how social norms (i.e., perceived appropriateness) of emotion expression differ across the four social media platforms of interest. Gender and age are additionally examined to understand possible variations between males and females, as well as late adolescents and emerging adults, respectively. Chapter 3 models the antecedents of the frequency of emotion expression online. Specifically, we examined how personality traits variably contribute to engaging in frequent positive and negative emotion expression on public social media platforms, as well as the mediating role of perceived injunctive norms herein.

The two subsequent chapters focus on the consequences that self-expression may have on the self. Chapter 4 addresses the potential self-effects of expressing emotions on social media. Specifically, the study tests whether positive and negative emotion expression would lead to either a fading or intensification of emotions as experienced afterwards. Additionally, differences in self-effects between public and private social media platforms are examined. Chapter 5 further extends research on self-concept changes as a result of selective identity expressions (extraversion vs. introversion) in public social media-like settings. Specifically, different degrees of publicness (semi-public vs. public) are examined to assess differences in self-concept change, as well as the potential reinforcing effect of being able to customize (expand or restrict) the degree of publicness through interface properties. Finally, Chapter 6 summarizes the works presented in Chapters 2 to 5 in an effort to gain a clearer perspective on self-expression in contemporary digital culture.
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The main aim of this study was to examine the norms of expressing emotions on social media. Specifically, the perceived appropriateness (i.e., injunctive norms) of expressing six discrete emotions (i.e., sadness, anger, disappointment, worry, joy, and pride) was investigated across four different social media platforms. Drawing on data collected in March 2016 among 1,201 young Dutch users (15-25 years), we found that positive expressions were generally perceived as more appropriate than negative expressions across all platforms. In line with the objective of the study, some platform differences were found. The expression of negative emotions was rated as most appropriate for WhatsApp, followed by Facebook, Twitter, and Instagram. For positive emotion expression, perceived appropriateness was highest for WhatsApp, followed by Instagram, Facebook, and Twitter. Additionally, some gender differences were found, while age showed little variations. Overall, the results contribute to a more informed understanding of emotion expression online.
Social media allow individuals to easily share their thoughts and feelings with others. At the same time, users need to carefully weigh the appropriateness of doing so within the variety of social contexts that different platforms present. So far, research has pointed towards an online ‘positivity bias’, referring to the majority of posted content being positively rather than negatively valenced (Reinecke & Trepte, 2014). This has been argued to be a result of prevailing positivity norms. To date, however, the perceived appropriateness (i.e., injunctive norms) of expressing emotions on social media has received little scholarly attention. Understanding which perceived norms of emotion expression prevail may not only provide insights into social media’s positivity bias, but also into the extent to which online expressions of negative emotions are considered inappropriate.

The current study aims to examine the prevailing injunctive norms of emotion expression on four popular social media platforms (i.e., Facebook, Twitter, Instagram, and WhatsApp). Injunctive norms refer to the extent to which people perceive certain behaviors to be appropriate or inappropriate (e.g., Cialdini & Trost, 1998). To gain a nuanced understanding of normative patterns of emotion expression, this study focuses on the expression of discrete positive and negative emotions and aims to compare their perceived appropriateness on different social media platforms. The focus on discrete emotions, rather than taking a dimensional perspective, offers greater precision in determining how different self-expressions vary in their perceived appropriateness. In addition, while much research focuses on single platforms, each social media platform presents a vastly different social context due to its unique features (e.g., Marwick & boyd, 2011; Wilson et al., 2012). Understanding differences across platforms therefore allows for a clearer view on the current prevailing norms online.

To further determine patterns of perceived norms in expressing emotions, differences in age and gender are also considered. Research has thus far generated mixed results in establishing differences for these demographic variables in expressive behaviors online (e.g., Taddicken, 2014). However, given the focus on the expression of emotions, men and women may come to display different perceptions of appropriateness when, for instance, seen from a socialization perspective (Thelwall, Wilkinson, & Uppal, 2010). In addition, self-disclosure marks an important role in adolescent development for which social media function as one of its primary tools (e.g., Valkenburg and Peter, 2011). To understand differences
in perceived norms from a developmental perspective, both late adolescents (15 – 18 years) and emerging adults (19 – 25 years) were selected for the current study.

In sum, the overall goal of this work is to illuminate normative patterns of expressing emotions on social media by means of a survey. In doing so, we maintain three specific objectives. First, by investigating the perceived appropriateness of disclosing positive and negative emotions, the present study provides a detailed picture of a potential positivity bias of online emotion expression. Second, the present study aims to elucidate how perceived injunctive norms of specific emotion expressions differ across different social media settings. Third, we explore how these perceived injunctive norms vary according to age and gender.

Norms, Emotion Expression and Social Media
Social norms, routinely conceptualized as injunctive and descriptive norms, are regarded as the explicit and implicit rules that inform individuals on what is deemed acceptable behavior in a given social context (Cialdini & Trost, 1998). In contrast to descriptive norms, which in the context of self-expression refer to the observation of what people typically express, injunctive norms refer to the perception of what most people deem appropriate or inappropriate expressions in certain situations. Moreover, injunctive norms “motivate behavior by promising social rewards or punishments” (Cialdini & Trost, 1998, p. 157). The perceived risks of social punishment that are associated with injunctive norms are in particular relevant to expressions of emotion. According to the Disclosure Decision Model, the perceived social risks likely influence the depth of disclosures in terms of the sharing of emotionally intense or negative personal information (Omarzu, 2000). These risks include social rejection, disapproval or betrayal by others (Greene, Derlega, & Mathews, 2006), as well as a negative public-image (Leary & Kowalski, 1990). Studying injunctive norms is thus particularly important for understanding behaviors of self-expression.

Many social media platforms encourage emotional self-expression, inviting users to regularly update on their thoughts, feelings and experiences to their larger network (e.g., Derks, Fischer, & Bos, 2008). Qualitative insights have so far revealed that ‘overly emotional’ expressions on Facebook are considered norms violations (Lambert, 2015; McLaughlin & Vitak, 2012). Research has further provided very little empirical insight into which perceived norms of self-expression prevail on
social media. However, empirical studies have consistently found that individuals post both positive and negative emotional expressions online, albeit with a bias towards the positive (e.g., Lin, Tov, & Qiu, 2014). This ‘positivity bias’ may be due to prevailing positivity norms that social media encourage (Reinecke & Trepte, 2014). Similarly, research has shown that the expression of positive emotions is perceived as considerably more appropriate than negative emotion expression for offline disclosures (Caltabiano & Smithson, 1983). The reason for this is that disclosures of negative emotion are seemingly more intimate, and therefore perceived as maladjusted behavior when directed at strangers or acquaintances (Chaikin & Derlega, 1974; Howell & Conway, 1990).

Several theories have attempted to explain online expressions based on the availability of communicative cues. Users are argued to rely more on verbal communication strategies (e.g., content and linguistics) to compensate for the lack of nonverbal cues online (Walther, 1992). In light of this, users might likely express negative emotions online to establish intimate social connections, as research on co-rumination indicates that sharing negative experiences could strengthen relational bonds (e.g., Rose, 2002). At the same time, the hyperpersonal perspective (Walther, 1996, 2007) suggests that due to the control that online settings provide over one’s self-presentation, individuals more typically present themselves in a social desirable way (i.e., positively). Conversely, the reduced nonverbal cues and controllability that online settings afford also facilitates disinhibition, depending on the impression one wants to achieve (Walther, 1996). This disinhibition can lead to more frequent expression of positive emotions, as well as negative emotions. The social identity model of deindividuation effects, however, adds that social context becomes more important in such reduced-cue settings, where users more strongly rely on prevailing social norms in expressing themselves compared to face-to-face (Postmes, Spears, & Lea, 2000).

While the expression of negative emotions might not be absent on social media platforms, the available research still points toward a greater perceived appropriateness of expressing positive emotions relative to negative emotions. The current study examines discrete emotions rather than taking a valence-based approach (positive versus negative emotions), as scholars have pointed out that different emotions are associated with different patterns of appraisal and action tendencies (e.g., Myrick, 2015). Hence, focusing on discrete emotions is more
informative and avoids oversimplifying the patterns of injunctive norms across social media platforms. The first hypothesis reads:

**H1:** The expression of positive emotions (i.e., joy and pride) is considered more appropriate compared to the expression of negative emotions (i.e., sadness, anger, disappointment, and worry) on social media platforms.

### Normative Differences Across Social Media Platforms

While seemingly similar, each online social media platform represents a unique social context in terms of its audience (e.g., Marwick & boyd, 2011). Theoretically, a change of social context should lead to a difference in prevailing norms as other social identities become salient (Postmes et al., 2000). However, social media are becoming increasingly complex in their multi-functionality and evolve at rapid pace, and no theoretical approach has yet been put forward in comparing specific platforms. However, to tease out platform differences and the variety of social behaviors that may be found across them, it is useful to look at the specific features that characterize a platform’s social context.

For social media, three features can be used to characterize a platform’s social context, which include **behavioral privacy settings**, its **following-mechanism**, and **modality**. Behavioral privacy is defined as the extent to which a behavior is performed in a public or private context (Lapinski & Rimal, 2005). While most social media platforms allow users to adjust their privacy settings, the default settings often function as the standard (Debatin, Lovejoy, Horn, & Hughes, 2009). Related to this is the following-mechanism that a platform affords: reciprocal or nonreciprocal. Reciprocal following occurs when two users need to both accept each other in their network, while nonreciprocal following allows a user to follow another without that user having to follow in return (Davenport, Bergman, Bergman, & Fearrington, 2014; Lup, Trub, & Rosenthal, 2015). Both these features help in informing the user about the perceived audience of a particular platform. Finally, the main modalities of content that a platform offers – text, visuals, or audiovisuals - characterizes the type of content that is typically shared. The combination of these three features helps discern how normative patterns of emotion expression potentially differ between Facebook, Twitter, Instagram, and WhatsApp.

In terms of behavioral privacy settings, the magnitude of normative influences
varies according to the extent to which behavioral privacy is perceived (Lapinski & Rimal, 2005). In private settings, the social risks related to a given behavior (e.g., emotion expression) are generally smaller because few people can impart judgment. In contrast, public settings heighten the perceived social risks because one’s behavior is available for public scrutiny. Indeed, a study by Bazarova (2012) found that public intimate disclosures were considered less acceptable compared to private intimate disclosures.

In the current study, WhatsApp provides the highest level of behavioral privacy. Considered one of the most popular mobile-based instant messenger applications, WhatsApp is generally used to communicate directly with one or a few friends and thus represents a private channel of communication (e.g., Karapanos et al., 2016). In contrast, Twitter is a microblogging site where users can follow others without the need for approval or reciprocation (i.e., nonreciprocal following). Although users can adjust the privacy settings, the majority maintains the public default, which means that anyone online is able to view one’s content (Marwick & boyd, 2011). In this respect, the mobile-based social network site Instagram is largely similar (Lup et al., 2015). On the social network site Facebook, users typically post content visibly to an articulated list of friends (boyd, 2011), which generates a more bounded semi-public space compared to Twitter and Instagram.

The following-mechanism of a platform provides information about the diversity of tie strengths in one’s network. Consistent with the social penetration hypothesis, disclosures become more intimate and varied as the relationship between individuals evolves (Altman & Taylor, 1973), resulting in changing perceptions of appropriateness. Here, strong ties include close friends, regular friends and family, while weak ties include acquaintances and casual contacts (Haythornthwaite, 2005). People are more likely to disclose personal information to strong ties rather than weak ties because a level of trust has been able to develop (e.g., Caltabiano & Smithson, 1983). Relatedly, the expression of negative emotions (i.e., more intimate information) is perceived as less acceptable in interactions with acquaintances and strangers (Chaikin & Derlega, 1974).

As to the platforms investigated in this study, WhatsApp is used to primarily interact with close ties compared to more public platforms such as Facebook, Twitter and Instagram, which revolve more around communication with weak ties (e.g., Karapanos et al., 2016). Generally, research confirms that strong ties are
more likely to use private channels to interact with each other than do weak ties (Haythornthwaite, 2005). Facebook is based on reciprocal following, which makes the proportion of both strong and weak ties in one’s audience more balanced (e.g., McLaughlin & Vitak, 2012). In contrast, Twitter and Instagram rely on nonreciprocal following, which is often associated with a larger proportion of weak ties and the inclusion of strangers in one’s network (Lin et al., 2014; Lup et al., 2015).

Lastly, the modalities of content that a platform encourages inform what types of content users generally share. Current social media platforms allow for multiple modalities of content, which is especially true for both Facebook and WhatsApp through which text, visual, and audiovisual content can be shared. However, for both Twitter and Instagram, the modality of content represents a defining feature. Twitter currently revolves around publishing short 140-character text messages. This feature has led Twitter to evolve into a popular tool for short and immediate commentary on real-time happenings, including both personal and news events (Kaplan & Haenlein, 2011). Research has shown that on Twitter, in part due to these characteristics, content is mainly negatively valenced even when it concerns positive events (Naveed, Gottron, Kunegis, & Che Alhadi, 2011; Thelwall, Buckley, & Paltoglou, 2011). Instagram, in contrast, is a platform focused on the sharing of pictures enhanced by filters. This emphasis on visuals and aesthetics, as some scholars argue, leads users to focus on sharing positive and even self-promotional content (e.g., Lup et al., 2015; Sheldon and Bryant, 2016).

In summary, Facebook presents a semi-public setting for which users’ networks are typically composed of both strong and weak ties. These characteristics make it seemingly acceptable to express both negative and positive emotions, which research on Facebook self-disclosures confirms (e.g., Moreno et al., 2011; Qiu et al., 2012). Twitter is in comparison more public and used primarily to publish information and commentary visible to weak ties. However, the short message feature appears to invite primarily negative commentary. Instagram is similar to Twitter in terms of its public setting and nonreciprocal following. Its focus on visuals and aesthetics, contrarily, appears to make the expression of positive emotions more conventional. WhatsApp can be characterized as a private platform that is mainly used to interact with close friends and family (i.e., strong ties), opening up the possibility for intimate conversation. The expression of emotion is therefore expected to be considered most appropriate on WhatsApp compared to the other
social media platforms. Based on these characterizations, the following hypotheses were put forward:

**H2:** The perceived appropriateness of expressing negative emotions (i.e., sadness, anger, disappointment and worry) is higher for Facebook, followed by Twitter, and last Instagram

**H3:** The perceived appropriateness of expressing positive emotions (i.e., joy and pride) is higher for Instagram, followed by Facebook, and last Twitter

**H4:** For WhatsApp, the perceived appropriateness of expressing both positive and negative emotions is highest compared to Facebook, Twitter, and Instagram

**Differences for Age and Gender**
Age and gender may affect how one perceives the injunctive norms of emotion expression on social media platforms. Concerning age, younger people seem to disclose more to peers than older people in both offline (Parker & Parrot, 1995) and online settings (e.g., Christofides et al., 2012). In addition, younger users are more likely to post self-derogating messages than older users (Bareket-Bojmel, Moran, & Shahar, 2016). Social media have been argued to be especially suited for young people to practice self-disclosure (Livingstone, 2008; Valkenburg & Peter, 2011), although other studies have not found any age differences in self-expressions online (e.g., Taddicken, 2014). Due to inconclusive evidence on this topic, it is difficult to predict age differences. However, younger users may have different perceived norms compared to those that have been using online communication for longer. We asked:

**RQ1:** How do late adolescents and emerging adults vary in their perceived appropriateness of the six types of emotional self-expression across different social media platforms?

For gender, differences in disclosure behaviors have traditionally been attributed to socialization processes. From an early age, girls are taught to be more expressive
and sensitive, while boys are expected to restrain from affective behaviors (e.g., Mesch & Beker, 2010). Some studies have found that women use more affective words and express more emotional content on social media, while men more often portray assertiveness and serious expressions in their self-presentations (e.g., Tifferet & Vilnai-Yavetz, 2014). However, other studies have failed to find gender differences in the context of disclosure (e.g., Cho, 2007; Thelwall et al., 2010). Given these inconsistent results, we examine the following research question:

**RQ2:** How do males and females vary in their perceived appropriateness of the six types of emotional self-expression across different social media platforms?

**Method**

**Sample and Procedure**

Participants were recruited through e-mail from a subject pool of a professional research company in March 2016. Institutional approval was granted prior to the collection of data. Based on pre-determined sample quota in terms of age (50% late adolescents, 50% emerging adults) and gender (50% female, 50% male), 1,201 individuals were surveyed. The company reached out to a large number of subject pool participants from different parts in the Netherlands that fit the quota, and continued until the required number of participants was met. A multi-stage randomization was employed by the company, meaning that participants are first assigned to a series of profiling questions after which they are randomly assigned to a survey based on their answers. Approximately half of the participants were between the ages of 15 and 18 ($n = 591$), and half between the ages of 19 and 25 ($n = 610$). In addition, 48.8% of the full sample was male, and 51.2% was female. Individuals were only allowed to participate after actively granting consent, which for the under-aged participants included parental consent as well. Participants received monetary compensation after completion, in line with the research company’s guidelines.
Measures

Platform use
Participants were presented with a list of 21 social media platforms, for which they could indicate active use. Active use was defined as being a registered user and having used the platform at least once in the past month, and primarily served as a filter question for further questions. Participants were presented with statements for each perceived norm of emotion expression separately for Facebook, Twitter, Instagram, and WhatsApp. To avoid question order effects, the order in which the blocks of questions for each platform were presented to participants was randomized.

Perceived injunctive norms of positive emotion expression
Participants were asked to indicate, per platform, to what extent they agreed with the statements “The people who are important to me would be okay with me posting about something that made me joyous” and “The people who are important to me would be okay with me posting about something that made me proud”. These items are based on the operationalization of personal injunctive norms typically used in the literature on norms (e.g., Park & Smith, 2007). To effectively measure perceived injunctive norms, items should focus on how participants perceive important others’ approval (i.e., “people who are important to me”) and on the personal nature of the emotion expression of interest (i.e., “something that made me”). Responses were measured using a five-point Likert-type scale (1 = completely disagree, 5 = completely agree).

Perceived injunctive norms of negative emotion expression
The perceived appropriateness of expressing negative emotions was measured in a similar manner to the perceived injunctive norms of positive emotion expression, again separately for each platform. Participants indicated on a five-point Likert-type scale (1 = completely disagree, 5 = completely agree) the degree to which they agreed with the statement “The people who are important to me would be okay with me posting about something that made me...”, which for the negative emotions ended with the adjectives ‘sad’, ‘angry’, ‘disappointed’ or ‘worried’.
Age and gender
Participants were asked to indicate their age through an open-ended response format. This continuous variable was subsequently transformed into a dummy variable, reflecting the age category corresponding to the age ranges of late adolescents (15 to 18 years; coded as 0) and emerging adults (19 to 25 years; coded as 1). In addition, participants were asked whether they are male (coded as 0) or female (coded as 1).

Covariates
To assess differences on a platform level, two covariates were included that reflect possible individual variations related to one’s network. All covariates were measured separately per platform. An overview of the descriptive statistics for the covariates and demographics are reported in Table 1.

Perceived behavioral privacy
To understand how private (or public) participants perceived different social media platforms, participants were presented with the following situations: “Posting a message (status update) on your own Facebook Wall”; “Posting a tweet that is shared with your list of followers on Twitter”; “Posting an image (including a possible caption) on Instagram”; and “Sending a message to one other person through WhatsApp”. Participants indicated to what extent they rated these situations as public or private on a seven-point scale (1 = very public, 7 = very private).

Privacy settings
Participants were asked to indicate whether the settings of their profile and shared posts were either customized (i.e., visible only to a restricted set of accepted network members; coded as 0) or set to the public default (i.e., visible to anyone on or off the platform of concern; coded as 1).
Analyses

Factor analyses were used to test whether the perceived norms for negative emotions of sadness, anger, disappointment and worry were statistically distinct from the positive emotions of joy and pride for each of the platforms. Principal component analyses using direct oblimin rotation generated two components for Facebook, Twitter, and Instagram; one for negative emotions and one for positive emotions (all primary loadings exceeded .80; Cronbach’s alpha for negative emotions were higher than .92; Pearson’s r for positive emotions were higher than .85). For WhatsApp only one component was extracted. However, when the extraction of two factors was enforced, a similar pattern emerged. The correlation between the two components for WhatsApp was relatively high (r = .69). Cronbach’s alpha was .95 for the perceived norms of negative emotions, and the correlation for the perceived norms of pride and joy was .87. Taking all perceived norms of negative emotion expression for all social media platforms together revealed a Cronbach’s alpha of .94, which for positive emotion expression was .88.

To establish statistical differences between the means of perceived norms of emotion expression for each platform, repeated measures analyses with a linear mixed models approach were used. This approach accounts for the non-independence of residuals that are a result of the multiple observations for each participant. The data were transformed into long format in SPSS to allow for mixed modelling. The perceived norms were then, separately, included as dependent
variables with platform (four levels) as the repeated factor. This approach is beneficial for analyzing data that includes missing data, since subjects with missing data points will not be removed from the analyses (e.g., Bagiella, Sloan, & Heitjan, 2000). In addition, the mixed models approach allows for fitting specific covariance structures to the data. For the purpose of this study compound symmetry was selected, which treats all variances as approximately equal and all covariances as approximately equal (Bagiella et al., 2000). This structure is commonly used if there is no logical ordering to the observations, which applies to the current data. We further applied the Bonferroni adjustment within SPSS in comparing main effects to account for multiple testing (Westfall, Johnson, & Utts, 1997), with alpha levels adjusted to .008 (= .05/6) per test. All presented p-values are Bonferroni corrected.

Results

Descriptive Statistics
The majority of the sample (N = 1,201) indicated using WhatsApp (90.2%), followed by Facebook (88.3%), Instagram (54.5%) and Twitter (34.6%). As shown in Table 1, the distribution of gender and age was approximately equal across all four platforms. In total, participants indicated to use on average five platforms from the list of 21 social media platforms (M = 4.88, SD = 2.23). This average was significantly higher for females (M = 5.04, SD = 2.25) compared to males (M = 4.70, SD = 2.19), t(1199) = -2.66, p = .008. For age, this difference was not significant, t(1199) = 1.01, p = .272.

The significant correlations (see Table 2) with some of the perceived norms of emotion expression across the four platforms show that privacy settings and perceived behavioral privacy of platform context may be confounding factors. As individual privacy settings may influence the extent to which one perceives a platform context to be public or private, independent t-tests were conducted. These revealed that, except for WhatsApp (t(1000) = 1.89, p = .059), privacy settings lead to differences in the perceived behavioral privacy of the platform context. That is, users with custom settings rated Facebook as significantly more private (M = 3.67, SD = 1.79) than users with public settings (M = 3.19, SD = 1.64), t(1058) = 3.39, p = .001). This pattern also applied to Twitter (Mcustom = 3.98, SDcustom = 1.87, Mpublic = 2.96,
$SD_{public} = 1.70; \; t(414) = 5.76, \; p < .001$, and Instagram ($M_{custom} = 3.85, \; SD_{custom} = 1.64, \; M_{public} = 2.64, \; SD_{public} = 1.40; \; t(615) = 10.14, \; p < .001$). The perceived behavioral privacy of platform context thus appears to differ for each privacy setting, and is therefore included as a nested variable (i.e., within privacy setting) in the mixed modelling analyses as a covariate.

Table 2. Correlations between perceived norms, covariates, age, and gender

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
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<tr>
<td>3.</td>
<td>Disappointment</td>
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<td>.82***</td>
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<tr>
<td>4.</td>
<td>Worry</td>
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<td>.39***</td>
<td>.43***</td>
<td>.46***</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5.</td>
<td>Joy</td>
<td>.45***</td>
<td>.42***</td>
<td>.44***</td>
<td>.47***</td>
<td>.84***</td>
<td></td>
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<tr>
<td>6.</td>
<td>Pride</td>
<td>.07***</td>
<td>.12***</td>
<td>.11***</td>
<td>.10***</td>
<td>.05***</td>
<td>.07***</td>
<td></td>
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<tr>
<td>7.</td>
<td>Privacy settings</td>
<td>.20***</td>
<td>.20***</td>
<td>.21***</td>
<td>.20***</td>
<td>- .01</td>
<td>- .01</td>
<td>- .05***</td>
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<tr>
<td>8.</td>
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<td>.01</td>
<td>.01</td>
<td>.00</td>
<td>.05</td>
<td>.05</td>
<td>.02</td>
</tr>
<tr>
<td>9.</td>
<td>Age</td>
<td>.06***</td>
<td>.05***</td>
<td>.04***</td>
<td>.06***</td>
<td>.16***</td>
<td>.14***</td>
<td>.08***</td>
</tr>
<tr>
<td>10.</td>
<td>Gender</td>
<td></td>
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</tbody>
</table>

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Emotion Expression Norms and Platform Differences

Hypothesis 1 stated that, overall, expressions of positive emotions would be perceived as more appropriate than expressions of negative emotions. The perceived appropriateness of positive emotion expression was overall rated as higher ($M = 3.91, \; SD = .87$) than the perceived appropriateness of negative emotion expression ($M = 3.33, \; SD = .97$). A paired samples t-test revealed that this difference was statistically significant, $t(3213) = 35.13, \; p < .001$, thereby supporting Hypothesis 1.

Hypotheses 2, 3 and 4 focused on the differences in the perceived appropriateness of expressing emotions between Facebook, Twitter, Instagram, and WhatsApp. The analyses were performed for each individual emotion to gain
a more thorough insight into the patterns that possibly emerge. An overview of all the means and standard errors are provided in Table 3. For the expression of sadness, the test of fixed effects showed a significant influence of platform, \( F(3, 2420) = 48.26, p < .001 \), as well as of perceived behavioral privacy, \( F(2, 3090) = 21.09, p < .001 \). Pairwise comparisons showed that the expression of sadness was perceived as significantly more appropriate on WhatsApp (\( M = 3.66, SE = .04 \)) than on all other platforms. The perceived appropriateness of expressing sadness was lowest for Instagram (\( M = 3.09, SE = .04 \)) and Twitter (\( M = 3.14, SE = .05 \)), which was significantly lower than for WhatsApp and Facebook (\( M = 3.23, SE = .03 \)). For the expression of anger, the test of fixed effects also showed a significant influence of platform, \( F(3, 2417) = 47.26, p < .001 \), and perceived behavioral privacy, \( F(2, 3098) = 28.64, p < .001 \). Here, WhatsApp (\( M = 3.64, SE = .04 \)) again showed the highest average rating of perceived appropriateness, and differed significantly from Facebook (\( M = 3.20, SE = .03 \)), Twitter (\( M = 3.26, SE = .05 \)) and Instagram (\( M = 3.07, SE = .04 \)) which showed the lowest average rating. The difference between Facebook and Twitter, however, failed to reach significance.

The perceived appropriateness of expressing disappointment was similarly affected by platform, \( F(3, 2447) = 54.17, p < .001 \), as well as perceived behavioral privacy, \( F(2, 3123) = 26.21, p < .001 \). The pairwise comparisons showed again that for WhatsApp (\( M = 3.69, SE = .04 \)) the expression of disappointment is perceived as most appropriate, and significantly different from perceived appropriateness ratings for Facebook (\( M = 3.24, SE = .03 \)), Twitter (\( M = 3.25, SE = .05 \)), and Instagram (\( M = 3.08, SE = .04 \)), again showing the lowest rating of perceived appropriateness. The difference in means between Facebook and Twitter was not significant. For the perceived norm of expressing worry, the effect of platform was again significant, \( F(3, 2451) = 53.05, p < .001 \), as was the perceived behavioral privacy covariate, \( F(2, 3125) = 21.90, p < .001 \). Much like the expression of disappointment, the perceived appropriateness of expressing worry was highest for WhatsApp (\( M = 3.74, SE = .04 \)) and significantly differed from Facebook (\( M = 3.27, SE = .03 \)), Twitter (\( M = 3.29, SE = .05 \)) and Instagram (\( M = 3.15, SE = .04 \)). The difference between Facebook and Twitter did not reach significance.

Taken together, a consistent pattern emerges for the perceived appropriateness across the different negative emotions. The ratings appeared highest for WhatsApp, followed by both Facebook and Twitter, and lowest for Instagram. Facebook and
Twitter were hypothesized to significantly differ in means, which did not appear to be the case. However, the data did confirm the overall hypothesized pattern between platforms. Therefore, Hypothesis 2 was only partially supported.

For the expression of positive emotions, the third Hypothesis predicted that Instagram would show higher ratings of perceived appropriateness compared to Facebook, with lowest ratings of perceived appropriateness for Twitter. The platform showed a significant fixed effect on the perceived appropriateness ratings of joyous expressions ($F(3, 2360) = 10.89, p < .001$), but not of the perceived behavioral privacy, $F(2, 3022) = 2.24, p = .107$. The perceived appropriateness of expressing joy was highest for WhatsApp ($M = 4.05, SE = .03$), followed by Instagram ($M = 3.93, SE = .03$), Facebook ($M = 3.90, SE = .03$), and last Twitter ($M=3.78, SE=.04$). However, the mean differences between Facebook and Instagram did not reach statistical significance. The perceived appropriateness of expressing pride, was again significantly influenced by platform, $F(3, 2405) = 11.95, p < .001$, as well as by the perceived behavioral privacy, $F(2, 3078) = 5.49, p = .004$. Ratings of perceived appropriateness were highest for WhatsApp ($M = 4.02, SE = .03$), followed by Instagram ($M = 3.89, SE = .04$), Facebook ($M = 3.83, SE = .03$), and last Twitter ($M = 3.74, SE = .04$). The mean difference between Facebook and Twitter, as well as between Facebook and Instagram failed to reach significance.

The perceived appropriateness of expressing positive emotions thus appeared higher for both Instagram and Facebook compared to Twitter, which showed the lowest ratings of perceived appropriateness. Again, the results did not support the hypothesized significant differences between Instagram and Facebook. Hypothesis 3 was therefore only partially supported. Lastly, Hypothesis 4 posited that the expression of the positive as well as the negative emotions would be considered most appropriate on WhatsApp. The results confirm that WhatsApp, relative to Facebook, Twitter, and Instagram, had the highest ratings for all positive and negative emotion expressions. Therefore, Hypothesis 4 was supported.
Table 3. Estimated means and standard errors for perceived norms of emotion expression

<table>
<thead>
<tr>
<th></th>
<th>Facebook</th>
<th>Twitter</th>
<th>Instagram</th>
<th>WhatsApp</th>
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<tr>
<td>Sadness</td>
<td>3.23 (.03)\textsuperscript{a}</td>
<td>3.14 (.03)\textsuperscript{a}</td>
<td>3.09 (.04)\textsuperscript{a}</td>
<td>3.66 (.04)\textsuperscript{c}</td>
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<td>3.20 (.03)\textsuperscript{a}</td>
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<td>3.64 (.04)\textsuperscript{c}</td>
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<td>3.25 (.05)\textsuperscript{a}</td>
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<td>3.69 (.04)\textsuperscript{c}</td>
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<td>3.29 (.05)\textsuperscript{a}</td>
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<td>3.74 (.04)\textsuperscript{b}</td>
<td>3.89 (.04)\textsuperscript{b}</td>
<td>4.02 (.03)\textsuperscript{c}</td>
</tr>
</tbody>
</table>

\textit{Note.} Means with different subscripts differ significantly from each other within rows, with $p$ at least < .01.

Differences for Age and Gender

To identify variations in perceived appropriateness of emotion expressions for age (RQ1) and gender (RQ2), these variables were included in the repeated measures with mixed modelling approach along with the covariate of perceived privacy of platform context nested in privacy setting. The results revealed that there were no differences between late adolescents (15 – 18 years) and emerging adults (19 – 25 years) for the perceived appropriateness of sadness, anger, disappointment, or worry. For the positive emotions differences emerged only for the expression of joy on Instagram. Late adolescents ($M = 4.00$, \textit{SE} = .05) considered the expression of joy more appropriate on Instagram than emerging adults ($M = 3.82$, \textit{SE} = .05; $t(3089) = 2.71$, $p = .008$).

For gender, differences were primarily found for the expression of positive emotions on Facebook, Twitter, and Instagram. This indicates that females rated these expressions as more appropriate than males (see Table 4). The expression of negative emotions on each of these three platforms was largely viewed as equally appropriate by males and females, with the exception of expressing worry on Facebook. For WhatsApp, females rated the appropriateness of all expressions of emotion as more appropriate compared to males. Females thus perceive the expression of positive emotions across different platforms, as well as the expression of both positive and negative emotions in more private spaces (i.e., WhatsApp), as more acceptable than males.
Table 4. Differences in gender for perceived norms of emotion expression

<table>
<thead>
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<th>Male</th>
<th>Female</th>
<th>df</th>
<th>t</th>
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*Note.* Significant mean differences are marked in bold. The df are inflated due to long format used in analyses.
Discussion

The current study mapped out the prevailing injunctive norms of emotion expression for different platforms. More specifically, this study sought to identify the perceived appropriateness of six different expressions of emotions (i.e., sadness, anger, disappointment, worry, joy, and pride) on Facebook, Twitter, Instagram, and WhatsApp. In doing so, the present findings provide a snapshot of the possible variations in the prevailing perceived norms on expressive behaviors across online spaces, and further advance our understanding of self-expression on social media.

The expressions of positive emotions were generally considered more appropriate than expressions of negative emotions across all platforms. This is in line with prior research on the appropriateness of self-disclosure in offline contexts (e.g., Caltabiano & Smithson, 1983), as well as the proportions of positively and negatively valenced messages found in online self-disclosure research so far (e.g., Lin et al., 2014). The expression of negative emotions may be perceived as less appropriate due to the intimacy it carries (Chaikin & Derlega, 1974). In addition, we found differences in perceived norms of emotion expression across platforms. The expression of all six emotions was found to be most appropriate for WhatsApp relative to the other three more public platforms. Our results thus correspond to theoretical and empirical work that has focused on behavioral privacy in relation to self-disclosure (e.g., Bazarova, 2012). In addition, our results also seem to be in line with studies on instant messaging that found intimate and emotional experiences to be shared more often through these more private forms of communication (e.g., Quan-Haase & Young, 2010).

Concerning differences between the three more public platforms, our results only partially confirmed the hypothesized patterns. The expression of negative emotions was rated as more appropriate for Facebook and Twitter compared to Instagram. For positive emotion expression, perceived appropriateness was higher for Instagram and Facebook than for Twitter. This ties in with existing research that has pointed towards a focus on self-promotional content on Instagram due to its visual properties (Sheldon & Bryant, 2016), and the popularity of negatively valenced content on Twitter (e.g., Naveed et al., 2011). The features that are distinct for a social media platform thus seem to invite certain types of expressions and
beliefs on what may be considered appropriate, beyond differences in perceived behavioral privacy.

To further understand normative patterns of online self-expression, age and gender differences were also explored. Some gender differences were found, partially confirming that males find it less acceptable to share their feelings, as they rated the overall expression of emotions as less appropriate on WhatsApp than females. Additionally, males rated the expression of positive emotions as less appropriate on the other three platforms relative to females, yet this was not the case for negative emotion expression. This lends partial support to the theoretical understandings of gender differences in the self-disclosure literature. While many studies on self-disclosure have failed to find gender differences (e.g., Cho, 2007; Thelwall et al., 2010), the current study provides a more nuanced understanding by taking different platforms into consideration. Our findings suggest that gender differences do not seem to manifest themselves equally across all social media platforms, but particularly among private platforms that encourage more intimate emotion expressions.

The current results show that late adolescents and emerging adults generally do not differ in their perceptions of appropriate emotional self-expression across the different social media platforms. It is possible that developmental processes have already partly stabilized between the ages of 15 and 18, as young people nowadays engage with social media at the young age of 10 years old (Lange, 2014). Additionally, parents now more frequently discuss appropriate and inappropriate online behaviors with their teenage kids (Anderson, 2016), which more likely eliminates differences in behaviors between adolescents and emerging adults through learned inhibitions. However, given that the current data may suffer from selection bias, future research could further explore whether these results hold in other samples of similar age ranges.

Contributions and Implications
Ultimately, the present findings show that users consider the expressions of both positive and negative emotions acceptable on social media. This seems to fit the idea of authentic self-presentation in online settings as expressing negative emotions is perceived acceptable, which is in line with presenting one’s ‘true self’ (e.g., Back et al., 2016; Bareket-Bojmel et al., 2016). The relative higher rating of
positive expression appropriateness points toward a stronger presence of positivity norms, which corresponds with positive authenticity expectations on social media (Reinecke & Trepte, 2014). However, this finding should not be considered unique to online settings as positivity norms also persist in face-to-face interactions (Howell & Conway, 1990). Generally, the fact that people follow rules of interaction stems from the inherent need to avoid the risk of social sanctions and rejection (e.g., Cialdini & Trost, 1998; Lapinski & Rimal, 2005).

The current findings also provide further information on platform differences. More private spaces in which one can communicate with a specific close friend allow for looser norms of emotion expression, as our findings on WhatsApp showed. This finding, along with the differences that emerged between the public platforms Twitter and Instagram, might further explain why people hold multiple social media accounts and shift between different platforms in expressing themselves. If users feel a need to express themselves emotionally, they will likely select a platform for which they feel such expressions will be deemed appropriate. Future research could further examine the perceived appropriateness of emotion expression among populations from different countries, as uses of social media platforms and perceptions of appropriateness might be country-specific or culturally dependent.

Additionally, the expression of emotion in online settings remains a relatively understudied subject. Norms are argued to be a driver of many social behaviors (Lapinski & Rimal, 2005). The current results provide information on users’ perceptions of emotion expression on social media, thereby advancing theoretical knowledge on the online sharing of emotion. Understanding what expressions are considered appropriate and inappropriate could further be used to gain insight into what motivates antinormative behaviors more accurately, and the potential adverse consequences this may have compared to normative behaviors of expression online. Research on problematic behaviors such as ‘flaming’ has begun to explore the mechanisms that underlie these tendencies (Derks et al., 2008). However, not much is known about antinormative behaviors related to emotion expression in online spaces and the consequences thereof.

Future Considerations
The current findings need to be seen in light of the study’s limitations. First, we did not study descriptive norms of emotion expression. Future research could consider
this, as the addition of descriptive norms may paint a more detailed picture of the current prevailing norms of expression (Lapinski & Rimal, 2005). The current study focused on the perceived social punishments or rewards that may be imposed upon by important others, who in the context of emotion expression would likely be most influential in guiding such sensitive behavior. However, assessing which emotions participants perceive other people to typically express, or whether participants would approve of important others’ emotion expressions on social media, is also relevant. Second, based on the current results, it is not possible to single out exactly what features or affordances contributed to the differences in perceived appropriateness across the four platforms studied. However, we believe that the findings nevertheless provide new insights into differences in social context between social media platforms which, given the dearth of comparative social media research, marks a meaningful step towards a more informed perspective on platform differences.
References


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The purpose of this study was to assess the relationships between frequency of public online emotion expression and individual differences in personality traits (i.e., need for popularity, impulsivity, social anxiety, self-monitoring, narcissism), as well as the potentially mediating role of social norms in this relationship. Using survey data \((N = 1,145)\) from social media users ranging in age from 15 to 25 years \((M = 19.2; 51.2\% \text{ female})\), we first found norms to be an important predictor. Furthermore, the results revealed that frequent expressions of positive emotion and negative emotion are predicted by different sets of individual differences. Notably, differences in social anxiety, need for popularity, self-monitoring, and narcissism variably predict how often positive emotions are expressed when mediated by norms. In terms of frequent negative emotion expressions, social anxiety and narcissism were predictive when mediated by norms, while impulsivity and self-monitoring were found to directly predict the likelihood of frequent negative emotion expressions. The findings suggest the importance of the interaction between personality traits and social norms in further understanding self-expressive behaviors on social media.
Given the pervasiveness of individuals sharing their personal thoughts, feelings and experiences online, the expression of emotion on social media has gained attention among scholars (e.g., Derks, Fischer, & Bos, 2008). To attain a better understanding of differences in online expression more generally, scholars have begun to focus on individual differences. A common individual difference that has been considered in the literature on online expressions is that of personality. A majority of empirical research has focused on the personality dimensions of the Big Five in relation to online expressions, yet this has largely generated inconclusive findings (e.g., Utz, Tanis, & Vermeulen, 2012). Scholars have recently argued that these inconsistencies may be due to a lack of specificity in the predictors and online expressions studied. Three issues have been identified. First, much research has focused on predicting rather broad online social behaviors such as general self-disclosure, which may be less suitable given the differential uses that social media allow for (e.g., Hughes, Rowe, Batey, & Lee, 2012). Second, the dimensions of the Big Five have been argued to be too broad in scope to be informative in predicting online social behaviors (e.g., Ross et al., 2009). Third, scholars have noted the potential explanatory role of social norms for disclosure on expressive behaviors online (e.g., Choi & Toma, 2014), which has yet to be empirically tested in relation to the expression of emotions on social media.

The current study aims to address these three issues. The first goal of the study is to gain a more nuanced understanding of expressive behaviors online by focusing on the specific expression of positive and negative emotions on public social media platforms (i.e., Facebook, Twitter, and Instagram). The second goal is to examine specific individual differences that are predictive of different emotion expressions online. For this reason, the study incorporates individuals’ need for popularity, social anxiety, impulsivity, self-monitoring, and narcissism. The third goal is to investigate the role of perceived injunctive norms (i.e., the perception of what is deemed appropriate or inappropriate by others in terms of expressing emotions) in mediating the relationship between individual differences and emotion expression online.

Emotion Expression Online and Individual Differences
Typically, individuals express themselves more positively than negatively in both offline and online settings (Howell & Conway, 1990; Reinecke & Trepte, 2014). This
positivity bias on social media has been reasoned to result from prevailing positivity or politeness norms in online settings (e.g., Reinecke & Trepte, 2014; Spottswood & Hancock, 2016). More generally, and as outlined in the hyperpersonal model (Walther, 1996, 2007), the positivity bias may be due to the opportunities to enhance or embellish one’s self-portrayals more so than in face-to-face settings as a result of the heightened perceived control over one’s communication. At the same time, communication has been argued to be more intimate and personal due to the reduction in nonverbal cues. That is, users do not rely as much on physical appearance and focus more on linguistically conveying one’s intentions and affect.

This logic may extend to online emotion expression. The reduced ‘physical’ visibility and heightened control within online settings are argued to create a ‘safer’ space for emotion expression (Derks et al., 2008). However, the reduction in nonverbal cues may also encourage disinhibition, with the result that people may reveal more personal information than they would normally do (Schouten, Valkenburg, & Peter, 2007; Suler, 2004).

In line with such theoretical considerations, we recently found that on Facebook, Twitter, and Instagram expressions of positive emotions were perceived as significantly more appropriate than expressions of negative emotions (Waterloo, Baumgartner, Peter, & Valkenburg, 2017). Expressions of negative emotions, which in the study included sad, angry, disappointment and worried expressions, were however not necessarily considered inappropriate. Other studies have suggested that positive expressions can have beneficial outcomes, such as greater social attractiveness (Antheunis, Valkenburg, & Peter, 2010; Bazarova, 2012) and positive feedback, while negative expressions more likely leads to negative feedback (e.g., Forest & Wood, 2012). Such outcomes reinforce the perception that positive emotion expressions are more appropriate and appreciated, while the expressions of negative emotion might more likely be socially sanctioned. Nevertheless, instances of overly negative, intimate, or antinormative expressions on social media are not uncommon (McLaughlin & Vitak, 2012).

Within the context of online self-expression more broadly, scholars have noted the value of considering personality differences. Specifically, one’s disposition may reinforce specific behavioral tendencies, and thereby result in different behavioral patterns online (e.g., Nguyen, Bin, & Campbell, 2012). To date, however, little research has addressed personality differences in expressing emotions on social media. The
act of expressing personal information is inherently tied to impression management, defined as the strategies with which an individual controls the way they are perceived by others (Leary & Kowalski, 1990). In the context of social media in particular, impression management strategies includes expressions of self-relevant information, such as sharing emotional experiences (Chou & Edge, 2012; Lin, Tov, & Qiu, 2014; Qiu, Lin, Leung, & Tov, 2012). Notably, strategically managing what to express and what not to express (i.e., selective self-presentation) allows individuals to maximize the social rewards versus the risks that are of particular importance to them (Leary & Kowalski, 1990).

As mentioned, social media allow users to calculate their self-presentation more deliberately than offline. Simultaneously, especially for public social media platforms such as Facebook, Twitter, and Instagram, the need to weigh decisions regarding one’s self-expressions is heightened due to the archived nature of online content. From a strategic point of view, positive expressions may leave a good impression on others while negative expression may lead to negative judgment (e.g., Gross, Richards, & John, 2006). Recent research has found that the more social benefits an individual expects, the more personal information he or she will post on Facebook (Dienlin & Metzger, 2016). Some individuals may however not care as much about these potential social risks or rewards, or may be less motivated to employ strategies in managing others’ impressions of them, while others might be highly aware of the evaluation of others. Given this socially motivated nature of emotion expression, it is informative to examine traits that differentiate individuals in the extent to which they are perceptive of their social surroundings or value the social outcomes (i.e., risks or rewards) of their impression management-related behaviors. The current study focuses on five personality tendencies that relate to such social motivations, which include one’s need for popularity, impulsivity, social anxiety, self-monitoring, and narcissism.

Need for Popularity
The need for popularity is a personality trait recently introduced in the literature on social media use and self-presentation, and refers to the tendency to behave in ways that maximize one’s popularity with others (e.g., Utz et al., 2012). This disposition is especially relevant for understanding younger individuals’ expressive behaviors online, as belonging to a peer group is an essential part of adolescent
development (Santor, Messervey, & Kusumakar, 2000). Research has shown that need for popularity is an important predictor of online self-disclosure and self-presentation (e.g., Christofides, Muise, & Desmarais, 2009; Utz et al., 2012). More specifically, those high in need for popularity are more likely to engage in strategic self-presentation, profile enhancement, and the disclosure of feelings in such a way that they will appear more popular to others (Utz et al., 2012). In relation to emotion expression, we consequently expected:

**H1:** Higher need for popularity will predict more frequent expressions of positive emotions (H1a) and less frequent expressions of negative emotions (H1b) on public social media platforms.

**Impulsivity**

Impulsivity describes a dispositional tendency to display actions that are not well-thought through and often unnecessarily risky or inappropriate. In addition, impulsive individuals typically exhibit impatience, carelessness, and an inability to assess consequences (e.g., Chamberlain & Sahakian, 2007). To date, impulsivity has often been associated with excessive social media use (Cao, Su, Liu, & Gao, 2007), but has not yet been examined in relation to specific behaviors online such as emotional self-expression. Given that impression management revolves around the control over one’s expressions to strategically influence the perceptions others may form of them (Leary & Kowalski, 1990), impulsivity is a relevant trait to consider. While people have greater control over what they post online than offline (e.g., Valkenburg & Peter, 2011), those with a higher disposition of impulsivity may just as likely blurt out their feelings and opinions, similar to their behavior in offline settings (Archer, 1979). Added to this, posting status updates online is often done spontaneously, made possible by mobile technologies and the instantaneousness that typifies most social media platforms (Manovich, 2009; Wang et al., 2014). As a result, impulsive individuals may likely frequently express both positive and negative emotions on social media platforms. Therefore, we hypothesized:

**H2:** Higher levels of impulsivity will predict more frequent expressions of positive emotions (H2a) and more frequent expressions of negative emotions (H2b) on public social media platforms.
Social Anxiety
Social anxiety is a disposition often related to self-protective behaviors and concerns for disapproval from others (Meleshko & Alden, 1993). Those high in social anxiety are more likely to experience stress in social situations because of the expectation to be evaluated by others and, therefore, are typically more inhibited and withdrawn (High & Caplan, 2009; Schlenker & Leary, 1982). Some researchers have argued that individuals characterized by social anxiety are likely to be drawn to computer-mediated communication because of the sense of control over self-presentations it affords, as well as the relatively safe environment it provides for self-expressions due to its reduced cues (e.g., High & Caplan, 2009). In contrast, studies have found that socially anxious individuals are less likely to use the internet for social interactions compared to less socially anxious individuals (e.g., Valkenburg & Peter, 2007). In terms of self-presentation, however, socially anxious individuals are highly motivated to portray themselves in a positive manner (Caplan, 2007; High & Caplan, 2009). Hence, we expected:

H3: Higher levels of social anxiety will predict more frequent expressions of positive emotions (H3a) and less frequent expressions of negative emotions (H3b) on public social media platforms

Self-Monitoring
Self-monitoring is broadly defined as the disposition to be concerned with social appropriateness (e.g., Snyder, 1974). Typically, those high in self-monitoring engage in monitoring others’ expressions and self-presentations to assess how to manage their own. Public social media platforms in particular allow for the monitoring of others’ expressive behaviors. In terms of expressiveness, some researchers have found that high self-monitors are verbally assertive in their communication with others (Dabbs, Evans, Hopper, & Purvis, 1980). Due to the focus on social appropriateness, high self-monitors likely present themselves in a social desirable way, especially in a public situation where accountability is perceived as high (Turnley & Bolino, 2001). In an online context, Rosenberg and Egbert (2011) found that self-monitoring is not necessarily related to self-promoting strategies in self-presentation. However, research on variables related to self-monitoring, such as public self-consciousness, has found that social media users report more positive
than negative experiences online (Lee-Won, Shim, Joo, & Park, 2014). For this reason, we hypothesized:

**H4:** Higher levels of self-monitoring will predict more frequent expressions of positive emotions (H4a) and less frequent expressions of negative emotions (H4b) on public social media platforms

**Narcissism**
Narcissism has often been associated with different types of social media use. Narcissistic individuals typically have an exaggerated and overly positive self-concept, inflated sense of self-importance and a constant need for admiration from others (e.g., Buffardi & Campbell, 2008; Panek, Nardis, & Konrath, 2013). In terms of online self-presentation, studies have consistently found that narcissistic individuals primarily engage in self-promotion online as a way to gain this admiration from others, which simultaneously reflects their tendency to boast (e.g., Buffardi & Campbell, 2008; Marshall, Lefringhausen, & Ferenczi, 2015; Mehdizadeh, 2010). This ties in with the main motivations of narcissists in using public social media platforms, such as appearing cool to others (Sheldon & Bryant, 2016). Some scholars have also argued that narcissists have a tendency to engage in anti-social behavior in online settings due to their sense of entitlement. For instance, a study by Carpenter (2012) found that those high in narcissism (i.e., specifically the dimensions of entitlement and grandiose exhibitionism) demand social support whenever they are in need of this, while they do not feel the need to reciprocate. In accordance, a study by Leung (2013) found that those scoring high on grandiose exhibitionism were more likely to use social media to vent negative feelings compared to individuals that scored low on this measure. We therefore expected:

**H5:** Higher levels of narcissism will predict more frequent expressions of positive emotions (H5a) and more frequent expressions of negative emotions (H5b) on public social media platforms

**Perceived Injunctive Norms as a Mediator**
Although there are good reasons to assume that the five aforementioned personality traits relate to emotion expression online, it is currently unclear why these traits
may predict this particular behavior. One explanation may lie in the social norms that guide online behavior. The social identity model of deindividuation effects for example posits that, in online settings, individuals strongly rely on prevailing social norms in expressing themselves due to the reduction in social cues (Postmes, Spears, & Lea, 2000). More specifically, scholars have noted that social norms of disclosure may be an important predictor of online social behaviors in particular when it comes to the disclosure of personal information in public settings (Amichai-Hamburger & Vinitzky, 2010; Choi & Toma, 2014). Injunctive norms specifically, referring to the perception of what other people deem appropriate (Lapinski & Rimal, 2005), guide social behavior based on the perceived potential social consequences (Cialdini & Trost, 1998). Given this guiding nature of perceived injunctive norms, a higher frequency of positive (or negative) emotion expression may be based on a higher perceived appropriateness of positive (or negative) emotion expression.

Injunctive norms are constructed based on one’s own individual judgement (e.g., Lapinski & Rimal, 2005). Accordingly, research has suggested that perceptions of social norms, and of injunctive norms in particular, may differ among individuals (e.g., Lapinski & Rimal, 2005; Schlenker & Leary, 1982). Scholars in the domain of social psychology have put forth that some people are under more normative control than others (e.g., Trafimow & Finlay, 1996, 2001). Specifically, individuals who have a stronger collective self, relative to their private self, have been argued to more likely adjust their behavior to those around them (Triandis, 1994). Based on differences in personality tendencies, individuals may thus come to perceive the degree of appropriateness of expressing certain emotions online in different ways, and will act accordingly. It is therefore of interest to examine whether perceived injunctive norms of emotions expression act as a mediating psychological mechanism between personality traits and the frequency of emotion expression online. In doing so, we gain a more nuanced perspective on the predictive associations with emotion expression online.

Based on the characterization of traits within the literature, one could expect those high in need for popularity, self-monitoring and social anxiety to be especially concerned with the perceived approval of others, and hence perceive appropriateness of expressing emotions more conservatively. In contrast, those high in narcissism may consider their own online emotion expression as more appropriate due to their higher sense of entitlement. Similarly, those high in
impulsivity might not be as attentive to what others may or may not deem appropriate and therefore perceive most expressions of emotions as appropriate. Thus far, research remains limited on the associations between personality and norms, making it difficult to assert specific expectations. For this reason we formulated the following research question:

**RQ1:** To what extent are the relationships between personality (i.e., need for popularity, impulsivity, social anxiety, self-monitoring and narcissism) and frequency of emotion expression (i.e., positive and negative) mediated by perceived injunctive norms of emotion expression?

## Method

### Sample and Procedure

An online survey was administered in March 2016 through a professional research company. Institutional ethical approval was granted prior to data collection. The data that were collected were part of a larger project on different conceptual domains related to online emotion expression. A sample of 1,201 young individuals was surveyed. Half of the sample indicated to be between the ages of 15 and 18 \((n = 591)\), and half between the ages of 19 and 25 \((n = 610)\). In terms of gender, 48.8% of the full sample was male, and 51.2% was female. After actively granting consent, which for participants under the age of 18 years included parental consent, individuals completed the larger survey on social media use and personality (approximately 20 minutes in duration). The research company provided participants with monetary compensation after successful completion of the survey.

First, participants were presented with a list of 21 platforms, and asked to indicate which social media platforms they had used from this list at least once in the month prior to the survey. This question served as a filter question for further questions that, for the purpose of this study, specifically focused on three platforms (Facebook, \(n = 1060\); Twitter, \(n = 416\); and Instagram, \(n = 655\)). The platform WhatsApp was also included in the survey but is not part of this study because it is considered a private social medium, which does not fit in with the current focus on public expression of emotions. Therefore, the final sample used in this study amounts
to 1,145 participants. The order in which these platform-specific questions were presented to participants was randomized as a means to avoid order-effects. The final questions of the survey included items that measured the personality traits that were of interest to this study, for which purposely short item measures were included to avoid fatigue effects.

Measures

**Norms of emotion expression**

Participants were asked to indicate to what extent they agreed with statements regarding their perception on the appropriateness of expressing specific positive and negative emotions for each platform. We operationalized positive emotion expression with those of joy and pride, and negative emotion expression with sadness, anger, disappointment, and worry, selected based on their likelihood of being expressed on social media. An example for the positive emotion expression of joy includes: “The people who are important to me would be okay with me posting about something that made me joyous”. Similarly worded items also measured pride (positive emotion expression), as well as sadness, anger, disappointment, and worry (negative emotion expression), amounting to six items per platform. These items are based on the operationalization of personal injunctive norms typically used in empirical research on norms (e.g., Park and Smith, 2007). Responses were measured using a five-point Likert-type scale (1 = completely disagree, 5 = completely agree). As the focus in this study is on public social media settings, the items were collapsed across all three platforms to compute one score for norms on negative emotion expression, comprising 12 items in total, and one for positive emotion expression comprising 6 items. For the norm items of negative emotion expression, internal consistency was high with a Cronbach’s alpha of .94 (12 items, $M = 3.11$, $SD = 0.85$, $n = 1,145$). For positive emotion expression, Cronbach’s alpha was .85 (6 items, $M = 3.84$, $SD = 0.78$, $n = 1,145$).

**Frequency of emotion expression**

Similar to the measures of perceived injunctive norms, participants were asked to indicate how often they expressed specific emotions for each social media platform under study. The items were worded as follows: “Something that makes me ...[sad]”. Again, participants were presented with six items, reflecting the
six emotions including joy, pride, sadness, anger, disappointment, and worry. Responses were measured on a scale from 1 (never) to 5 (very often). Similar to the norms of emotion expression as outlined above, the items were collapsed across all three platforms to compute one score for frequency of negative emotion expression, comprising 12 items in total, and one for positive emotion expression comprising 6 items. For the frequency of negative emotion expression for all three platforms combined, Cronbach’s alpha was .94 (12 items, $M = 1.93$, $SD = 0.83$, $n = 1,145$). For positive emotion expression, Cronbach’s alpha was .82 (6 items, $M = 3.07$, $SD = 0.94$, $n = 1,145$).

**Need for popularity**

To measure one’s need for popularity, we selected 5 items based on high factor loadings from the Popularity subscale developed by Santor et al. (2000). Items included “I’ve been friends with some people, just because others liked them” and “At times, I’ve changed the way I dress in order to be more popular”. Participants could indicate their responses on a 5-point Likert-type scale ranging from 1 (completely disagree) to 5 (completely agree). The items revealed a Cronbach’s alpha of .90 ($M = 2.26$, $SD = 0.88$).

**Impulsivity**

Six items were used to understand the extent to which participants typically display impulsive behavior. The items were based on the impulsivity dimension adapted from the DSM-5 checklist for ADHD (American Psychiatric Association, 2013). The scale consisted of statements such as “I have difficulty awaiting my turn” and “I blurt out an answer before a question has been completed”, for which participants could indicate the frequency of occurrence within the past 6 months. Answer options ranged from 1 (never) to 5 (very often). Cronbach’s alpha was .82 ($M = 2.46$, $SD = 0.68$).

**Social anxiety**

Four items were included from the Social Anxiety Scale for Adolescents scale developed by La Greca and Lopez (1998), which measured the extent to which individuals experience social anxiety. The selected four items have been successfully used in previous research among young participants (e.g., Valkenburg
& Peter, 2008). Participants were presented with statements such as “I feel nervous when I’m around certain people”, which they were asked to rate on the frequency of their occurrence within the past 6 months on a scale from 1 (never) to 5 (very often). The items formed a reliable scale as reflected in a Cronbach’s alpha of .85 ($M = 2.74$, $SD = 0.82$).

**Self-monitoring**

To assess the trait of self-monitoring, 8 items were selected based on highest factor loadings from the Adolescent Self-Monitoring Scale that measure two dimensions of self-monitoring: ‘Ability to modify self-presentation’, and ‘sensitivity to expressive behavior of others’ (Pledger, 1992). Example items include “When I’m with a group of people, I can change the way I act if I think I should”, and “I can usually tell how someone feels without him/her telling me”. Participants could rate each statement on a 5-point Likert-type scale (1 = completely disagree, 5 = completely agree). All items together showed a Cronbach’s alpha of .85 ($M = 3.34$, $SD = 0.62$).

**Narcissism**

Four items were selected from the short 16-item Narcissistic Personality Inventory (Ames, Rose, & Anderson, 2006) to understand the extent to which participants displayed narcissistic tendencies. This selection was based on high factor loadings as well as measurement of distinct dimensions. Statements were presented, such as “I like to be the center of attention”, for which participants could rate whether they agreed or disagreed on a 5-point Likert-type scale ranging from 1 (completely disagree) to 5 (completely agree). The items together provided a Cronbach’s alpha of .83 ($M = 2.75$, $SD = 0.77$).

**Analyses**

To test the proposed hypotheses and research question, we tested two models in which the relation between individual differences and emotion expression online is mediated by injunctive social norms: One for positive emotion expression and one for negative emotion expression (see Figure 1). The models were tested using structural equation modeling in Amos 23. A recommended two-step approach was employed (e.g., Anderson & Gerbing, 1988): First a measurement model (CFA) was tested to confirm the factor structure of the variables included, before proceeding to
the structural models. All personality variables were tested in the structural models as latent variables, while the perceived injunctive norm and emotion expression variables were included as manifest variables based on their mean (separately for positive and negative emotions). Full Information Maximum Likelihood estimation was employed, which allows for casewise likelihood estimation using all available observed data (Enders & Bandalos, 2001; Peters & Enders, 2002). Since none of the variables showed issues in terms of skewness or kurtosis, and assumptions of multivariate normality were met, this can be considered a valid estimation method. To assess model fit, we focused on the following fit statistics: Chi-square test, Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA).

We take account of the chi-square statistics along with its significance at the .05 level, yet several scholars note that with larger sample sizes (i.e., > 300) the model will most likely fail the exact-fit test (e.g., Kline, 2011). For this reason, we chose to additionally look at other fit statistics to more accurately determine the model fit. The CFI is a relative fit index, which indicates the fit of the model compared to a statistical baseline model and should preferably be above .90 to conclude improvement in model adequacy (Hooper, Coughlan, & Mullen, 2008; Kline, 2011). The RMSEA is an absolute fit index, which concerns the proportion of sample covariances that the model explains (Kline, 2011). To assess acceptable model fit, the RMSEA should preferably be below .08 for mediocre to acceptable fit and below .05 for close fit (along with confidence intervals scoring below .05 for the low interval and below .10 for the high interval), (Kline, 2011; MacCallum, Browne, & Sugawara, 1996). The p-close that accompanies the RMSEA further informs on the test of close fit, which should display non-significance. The CFI and RMSEA have been found to be the least sensitive to sample size (e.g., Fan, Thompson, & Wang, 1999) and are therefore proper indices in the current study given the larger sample size.

To understand the mediating role of perceived injunctive norms in the relationship between personality and frequency of emotion expression, the partial posterior and the Monte Carlo likelihood-based confidence interval were computed for each indirect relationship. The partial posterior calculates a p-value while accounting for nuisance parameters. It is considered a well-suited inference method when dealing with incomplete data as it maintains Type 1 error rates while maximizing power.
(Biesanz, Falk, & Savalei, 2010). The Monte Carlo likelihood-based confidence interval method inverts a likelihood-ratio comparing a ML estimated model with an alternative model using fixed-value parameters (Falk & Biesanz, 2015; Preacher & Selig, 2012). These two approaches to testing the statistical significance of indirect effects have been argued to have more power than the traditionally used Sobel test, and have recently been verified as most appropriate when testing latent variable mediation models (e.g., Falk & Biesanz, 2015).

Figure 1. Conceptual model of tested relations between variables under study

Note. Two separate models were tested based on this model; one for positive emotion expression frequency with norms of positive emotion expression included, and one for negative emotion expression frequency with norms of negative emotion expression included.
Measurement Model Evaluations

A Confirmatory Factor Analysis (CFA) including all personality traits was first conducted, which is an analysis used to specify how well the observed variables are represented by the constructs included in the model. The initial measurement model revealed an unacceptable model fit ($\chi^2 = 2456.06$, $df = 314$, $p < .001$; CFI = .86; RMSEA = .075 [.073, .078], $p$-close < .001). Using the respecification approach employed by Byrne (2010), the modification indices were reviewed to assess potential issues. These firstly suggested residual correlations for four out of eight items on the self-monitoring factor. While self-monitoring is generally considered to be one factor in the literature, its measurement taps into two different aspects of the self-monitor trait. These include the ability to modify self-presentation and the sensitivity to expressive behavior of others (Lennox & Wolfe, 1984). Provided that the modification indices overlap with these theoretically distinct aspects of self-monitoring, this indicates that it would be better to statistically treat them as two separate factors, which is also advised by some scholars who have previously critiqued the self-monitoring construct (e.g., Wolf, Spinath, Riemann, & Angleitner, 2009). Doing so produced a better model fit and confirmed the value of this alteration, $\chi^2 = 1565.24$, $df = 309$, $p < .001$; CFI = .92; RMSEA = .058 [.055, .061], $p$-close < .001.

In a step-by-step respecification approach, two other residual correlations were suggested that pointed towards redundancy due to content overlap. Specifically, for narcissism the items “I know that I am good because everybody keeps telling me so” and “People always seem to recognize my authority” show great similarity due to the focus on self-ascribed authority. Similarly, for impulsivity a residual correlation was added between the items “I have difficulty awaiting my turn” and “I blurt out an answer before a question has been completed”. While adding correlations between item residuals should be conservatively considered, scholars have noted that this is preferred above removal of items when item similarity is high (e.g., Byrne, 2010). The final corrected CFA measurement model revealed an improved and acceptable fit to the data ($\chi^2 = 1335.14$, $df = 307$, $p < .001$; CFI = .93; RMSEA = .053 [.050, .056], $p$-close = .054), from which we could proceed to the structural model. The single-order correlations are presented in Table 1.
Table 1. Single-order correlations (Pearson’s r): individual differences, norms, and frequency of emotion expression

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<td>2. Impulsivity</td>
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<td>3. Social anxiety</td>
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<td>4. Self-monitoring</td>
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<td>5. Narcissism</td>
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<td>6. Norms (positive)</td>
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<td>7. Norms (negative)</td>
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<td>8. Frequency (positive)</td>
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<td>.15***</td>
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<td>9. Frequency (negative)</td>
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<td>.37***</td>
<td>.14***</td>
<td>-.06**</td>
<td>.18***</td>
<td>-.11***</td>
<td>.32***</td>
<td>.37***</td>
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Note. *p < .05, **p < .01, ***p < .001 (two-tailed).

Online Expression of Positive Emotions

Based on the corrected measurement model, a structural model was tested including latent variables for the personality traits and manifest variables to represent the perceived norms of emotion expression and frequency of expressing emotions. A full mediation model was tested with direct paths from the personality traits to perceived injunctive norms of positive emotion expression and one direct path from norms to frequency of positive emotion expression, which resulted in a model fit of $\chi^2 = 1514.05$, $df = 355$, $p < .001$; CFI = .93; RMSEA = .052 [.049, .055], $p$-close = .093. To test whether full or partial mediation best fits the data, a partial mediation model was tested including direct paths from personality traits to frequency of positive emotion expression as well as indirect paths through perceived injunctive norms of positive emotion expression. This yielded an acceptable model fit of $\chi^2 = 1442.18$, $df = 349$, $p < .001$; CFI = .93; RMSEA = .051 [.048, .054], $p$-close = .252. Partial mediation revealed a significant better model fit compared to the full mediation model as evidenced by a chi-square difference test ($\chi^2 = 71.87$, $df = 6$, $p < .001$).

The partial mediation estimated structural model for the expression of positive
emotions (e.g. pride and joy) explained 22% of the variance in the frequency of expressing positive emotions on public social media platforms. The relationship between norms of positive emotion expression and the frequency of positive emotion expression appeared to be positive and significant ($b^* = .40, t = 14.25, p < .001$). The traits of narcissism ($b^* = .11, t = 2.25, p = .025$), social anxiety ($b^* = .12, t = 3.19, p = .001$), and both self-monitoring aspects (sensitivity to others’ expressive behavior, $b^* = .13, t = 3.12, p = .002$; ability to modify self-presentation, $b^* = .13, t = 3.04, p = .002$) showed significant and positive relationships with perceived norms of positive emotion expression. Need for popularity showed a significant negative relationship with perceived norms of positive emotion expression ($b^* = -.11, t = -2.45, p = .014$). Impulsivity did not show a significant relationship with perceived norms of positive emotion expression ($b^* = -.09, t = -1.89, p = .059$).

In terms of direct relationships between the traits and frequency of positive emotion expression, need for popularity ($b^* = .13, t = 3.24, p = .001$), narcissism ($b^* = .17, t = 3.72, p < .001$), and social anxiety ($b^* = .07, t = 2.03, p = .042$) showed positive and significant results. Impulsivity ($b^* = -.03, t = -0.75, p = .451$), and both aspects of self-monitoring (sensitivity to others’ expressive behavior, $b^* = -.02, t = -0.51, p = .614$; ability to modify self-presentation, $b^* = .01, t = 0.18, p = .861$) appeared to be not significantly associated with the outcome variable directly. In light of these results, H1a, H3a and H5a seem supported while H2a and H4a do not seem to be supported. Based on the partial posterior and the likelihood-based confidence interval using a Monte Carlo approach (results presented in Table 2), it can be concluded that both self-monitoring factors are mediated by the perceived injunctive norms of positive emotion expression. Based on the indirect coefficient, the ability to modify self-presentation showed a positive indirect effect ($b^* = .05, b = 0.08, p = .002$), as did the factor representing sensitivity to others’ expressive behaviors ($b^* = .05, b = 0.07, p = .002$). Need for popularity ($b^* = -.04, b = -0.06, p = .014$), social anxiety ($b^* = .05, b = 0.06, p = .001$) and narcissism ($b^* = .04, b = 0.08, p = .024$) appear to be partially mediated by perceived injunctive norms of positive emotion expression. This means that for these traits both direct and indirect effects were found in predicting frequency of positive emotion expression online.

Online Expression of Negative Emotions
The model for negative emotion expression was tested in a similar manner to the model for positive emotion expression. For the expression of negative emotions, the
full mediation model resulted in a model fit of $\chi^2 = 1732.95$, $df = 355$, $p < .001$; CFI = .91; RMSEA = .057 [.054, .060], $p$-close < .001. The partial mediation model yielded an adequate model fit of $\chi^2 = 1485.75$, $df = 349$, $p < .001$; CFI = .93; RMSEA = .052 [.049, .055], $p$-close = .101, which was again a significant better model fit compared to the full mediation model as evidenced by a chi-square difference test ($\chi^2 = 247.20$, $df = 6$, $p < .001$).

In total, the model explained 30% of the variance in the frequency of expressing negative emotions on public social media platforms. Similar to the expression of positive emotions, the relationship between norms of negative emotion expression and the frequency of negative emotion expression was positive and significant ($b^* = .31$, $t = 11.88$, $p < .001$). The traits of narcissism ($b^* = .12$, $t = 2.29$, $p = .022$) and social anxiety ($b^* = .11$, $t = 2.76$, $p = .006$) showed significant and positive relationships with perceived norms of negative emotion expression. Need for popularity showed a weak significant negative relationship with perceived norms of negative emotion expression ($b^* = -.09$, $t = -2.06$, $p = .039$). Impulsivity ($b^* = .07$, $t = 1.48$, $p = .138$) and both aspects of self-monitoring (sensitivity to others’ expressive behavior, $b^* = .02$, $t = 0.37$, $p = .711$; ability to modify self-presentation, $b^* = .08$, $t = 1.72$, $p = .085$) did not show significant relationships with perceived norms of negative emotion expression.

In terms of direct relationships between the traits and frequency of negative emotion expression, need for popularity ($b^* = .21$, $t = 5.33$, $p < .001$) and impulsivity ($b^* = .30$, $t = 7.16$, $p < .001$) showed positive and significant results. The ability to modify self-presentation aspect of self-monitoring ($b^* = -.10$, $t = -2.53$, $p = .012$) showed a negative significant result. The traits of narcissism ($b^* = -.03$, $t = -0.73$, $p = .464$), social anxiety ($b^* = -.05$, $t = -1.47$, $p = .142$) and the sensitivity to others’ expressive behavior aspect of self-monitoring ($b^* = -.02$, $t = -0.48$, $p = .628$) showed no significant associations. These findings are in support of H2b and partially H4b, while this appears not to be the case for H1b, H3b and H5b. Based on the partial posterior and Monte Carlo likelihood-based confidence interval (results presented in Table 2), it can be concluded that social anxiety and narcissism are mediated by perceived injunctive norms of negative emotion expression. Based on the indirect coefficient, both social anxiety ($b^* = .03$, $b = 0.04$, $p = .006$) and narcissism ($b^* = .04$, $b = 0.06$, $p = .021$) show positive indirect effects. The need for popularity ($b^* = -.03$, $b = -.03$, $p = .038$) appears to be partially mediated by the perceived norms of negative emotion expression, revealing both a direct as well as an indirect effect on frequency of negative emotion expression.
### Table 2. Direct and indirect results of personality traits on social norms and frequency of emotion expression

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<th>Positive Emotion Expression</th>
<th>Negative Emotion Expression</th>
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<td>Norms</td>
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<td>$b$</td>
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<td>Need for popularity</td>
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<td>Self-monitoring 1</td>
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<td>Self-monitoring 2</td>
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<td>Narcissism</td>
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**Note:** Significant results are marked in bold. PP = $p$-value based on the partial posterior, 95% CI = likelihood based confidence interval using Monte Carlo approach. Indirect refers to mediation of traits through perceived injunctive norms on frequency of emotion expression. Self-Monitoring 1 refers to the dimension that measures *one's sensitivity to others' expressive behaviors*. Self-monitoring 2 refers to the dimension that measures *one's ability to modify self-presentation*.
Discussion

The prime aim of this study was to shed light on the individual differences that distinctively contribute to the behavior of emotion expression within the public setting of current social media platforms (i.e., Facebook, Twitter, and Instagram). While social media mainly serve social ends, they also provide an indispensable platform for impression management in the current media environment. For this reason, the current study examined the predictive value of several individual differences relevant to the social motivations and perceptiveness that underlie impression management tactics: need for popularity, social anxiety, impulsivity, self-monitoring, narcissism, and perceived injunctive norms.

Overall, the findings highlight that the expression of positive emotions and the expression of negative emotions are predicted by different individual differences. Specifically, the personality traits of need for popularity, social anxiety, and narcissism positively predict the frequency of sharing positive emotional experiences in public social media settings. Notably, the results indicate partial mediation for these traits, as indirect effects through injunctive norms of positive emotion expression surfaced aside from direct effects. For self-monitoring, which was characterized by two distinct aspects, only indirect effects were found through norms. That is, the higher individuals scored on the sensitivity to others’ expressive behaviors, the more they perceived the expression of positive emotions to be appropriate, and in turn the more frequently they reported to engage in doing so. The same mechanism was found for the self-monitoring aspect described in the literature as the ability to modify one’s self-presentation. Given the focus of self-monitoring individuals on concerns with social appropriateness (Snyder, 1974), one can expect norms to play an important role in their decisions around public self-expressions. Taken together, perceptions on what is deemed appropriate by others thus appears to be an important mechanism to consider in understanding positive emotion expression.

Interestingly, self-monitoring did not appear to be mediated by norms in predicting the expression of negative emotion online. While one would expect norms to be highly relevant for self-monitors in the context of negative emotion expression, only one’s perceived ability to modify self-presentations negatively
predicted the frequency with which one shares negative emotional experiences online – in a direct, rather than indirect manner. One’s sensitivity to others’ expressive behavior, as an aspect of self-monitoring, was not predictive of negative emotion expression. Impulsivity appeared to be the strongest direct predictor: Individuals scoring higher on impulsivity were more inclined to frequently express negative emotions on their public social media platforms. This finding is in line with expectations, as the literature has indicated that impulsive individuals more often blurt out their feelings and opinions in public settings (Archer, 1979).

For narcissism and social anxiety, norms again appeared to be an important mediating mechanism. However, those scoring high on social anxiety, unexpectedly, perceived negative emotion expression as appropriate, and in turn more frequently reported to do so. While not significant, the direct path from social anxiety to frequency of negative emotion expression was negative, and is thereby in line with the tendency of socially anxious individuals to be concerned with disapproval from others (Meleshko & Alden, 1993). One explanation for our finding could be that socially anxious individuals more typically maintain smaller networks and more intimate connections on their social media, and therefore feel their online connections would not deem such expressions inappropriate. In addition, there might have been some individuals in our data that are generally more inhibited and withdrawn or that have a larger following of friends, which would explain the contrasting negative direct effect. This group may have been too small to reach significance, and thereby indicates that most socially anxious individuals do consider negative emotion expression to be appropriate. Given that for both social anxiety and narcissism partial mediation was found for positive emotion expression, other mediating mechanisms may be of importance. It would therefore be fruitful to account for network size as well as privacy settings in future research in understanding their self-expressive tendencies online.

The findings for need for popularity, in terms of both positive and negative emotion expressions, were somewhat contradictory. While a higher need for popularity predicted more frequent expressions of positive and negative emotions, it also predicted lower perceived appropriateness of expressing positive and negative emotions. One could argue that those with a higher need for popularity have gathered larger and more diverse social networks across their most frequently used social media platforms. Consequently, they may deal with more complicated
social contexts, and may consider their emotional expressions to not be suitable for every individual within their online networks. They may nevertheless engage in frequent emotion expression, both positive and negative, to gain popularity among those that are well-known in their networks. The literature has so far however suggested that individuals with a higher need for popularity are driven to create more popular, hence positive, impressions (Utz et al., 2012). Given the partial mediation through norms for both positive and negative emotion expression, other mediating mechanisms may be at play. As a construct recently introduced in the literature on online self-expression, clearly more research is needed to fully understand what drives those with a higher need for popularity when it comes to emotion expressions.

Finally, perceived injunctive norms appear to be important in predicting online emotion expression. As expected, norms generally acted as a reinforcing factor in predicting frequency of emotion expression. In other words, if one perceives the expression in question as appropriate, one will more frequently do so. Given that norms also act as a mediator for most personality traits considered in this study, it suggests that these normative perceptions guide behaviors of expression for a number of individuals. In relation to negative emotion expression, norms appear to be somewhat less of a factor of influence compared to positive emotion expression. In the context of mean scores, however, individuals overall appear to steer clear from expressing negative emotions frequently online and primarily share positive experiences instead. To date, the role of social norms has received scant attention within social media research and the social behaviors found across them. Based on this study, social norms appear to be an important mechanism to consider, especially in light of public self-expressions and the decisions therein.

Contributions and Implications
Emotion expression is inherently human, yet the way it is shared depends on the individual and is restrained by perceptions of the social environment (Rimé, 2009). It is therefore informative to account for individual differences that predict this type of behavior. The current study extended research on self-disclosure and self-presentation by focusing on a variety of individual differences that have not yet collectively been considered in previous works. The findings of the current study provide insights into the predictive values of specific individual differences, and
suggest that people consider the social risks and rewards that come with sharing emotions as illustrated through the predictive value of norms. These potential risks and rewards may be perceived differently across individuals. This is in part due to differences in personality tendencies and normative perceptions, as shown through the current findings, but possibly also through differences in the perceived social (online) environment. Previous research already established the influence of network size, density, and diversity on disclosure behaviors in online settings (e.g., Lin et al., 2014; Vitak, 2012). While the current study focused on public social media platforms, such specific audience factors could be further examined together with relevant individual differences to better understand the antecedents of emotion expression behaviors online.

The insights on negative emotion expression are particularly informative for the positivity bias that is thought to prevail online (e.g., Reinecke & Trepte, 2014). The current findings suggest that some individuals are more likely to frequently post negative content on public social media platforms such as Facebook, Twitter, and Instagram, which were the platform considered in this study. Accordingly, the positivity bias may not apply to everyone. Based on the individual differences that predict more frequent expressions of negative emotions, one might argue that those less perceptive to their social surroundings are less likely to optimize the way they present themselves online. For one, impulsive individuals appear to more frequently express negative emotions online. As impulsivity is marked by an inability to assess consequences and unnecessarily risky behavior (Chamberlain & Sahakian, 2007), impulsive individuals may have difficulties in judging social consequences. Narcissistic individuals also more frequently express negative emotions. Their commonly heightened sense of entitlement (High & Caplan, 2009) may indicate a lack in social perceptiveness. Finally, socially anxious individuals were found more frequently to express negative emotions, which contradict their typically inhibited and socially perceptive tendencies (Carpenter, 2012). The reduced-cue nature of social media, however, may make it more difficult for them to gauge others’ reactions to their online expressions. While negative emotion expression is not necessarily inappropriate, frequently doing so might be (e.g., McLaughlin & Vitak, 2012). This could subsequently put individuals with tendencies to post about negative emotions at risk for negative feedback and the potential consequences thereof (Koutamanis, Vossen, & Valkenburg, 2015), and merits further research.
Going forward, research could complement the current findings with actual emotion expression data (e.g., log data), which would assure more accurate representations of these expressive behaviors and their main predictors. Moreover, we cannot infer from our measures of norms which social risks or rewards are perceived to be associated with these normative perceptions. Future research may therefore more explicitly examine these risks and rewards to gain a more comprehensive understanding of perceived norms within different social media contexts. Lastly, the information on social media platforms and the behaviors found across them is a snapshot of a quickly changing environment. Social media and the opportunities for expression they provide are highly dynamic and continuously evolving, evident in newly introduced expressive features such as ‘Stories’ and the implementation of newer technologies such as virtual and augmented reality. Public expressions about the self will remain a popular aspect of social media in the near future, albeit in different formats, and deserve our continued research attention.
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doi: 10.1016/j.paid.2015.04.039


doi: 10.1016/j.chb.2016.08.019

Chapter 3


The current study pursued the question of whether the expression of emotions, when shared on social media, subsequently intensifies (i.e., intensification effect) or reduces (i.e., fading effect) these emotions. Furthermore, we sought to understand the extent to which the magnitude of these emotion outcomes was related to expressing oneself in a public (Facebook, Twitter, and Instagram) or a private (WhatsApp) social media setting. Our survey data ($N = 1,201$; $M = 19.2$ years, $51.2\%$ female) showed that positive emotion expressions (i.e., joy and pride) intensified positive emotions. By contrast, negative emotion expressions (i.e., sadness, anger, disappointment and worry) reduced negative emotions when shared on social media. Moreover, the intensification effect for positive emotion expression occurred in both public and private social media settings, while the fading effects for negative emotions were stronger in private than in public social media settings.
Social media platforms provide an important outlet for emotional expressivity in the current digital age. Expressions of emotion include the verbalizing and sharing of one’s positive and negative thoughts, feelings and experiences. The literature has consistently asserted that doing so may lead to beneficial ‘self-effects’; that is, the effects of crafting and sharing personal messages on the message crafter or sender him or herself (Valkenburg, 2017). The popular belief holds that sharing positive emotional experiences with others maximizes one’s positive feelings (i.e., an intensification effect), whilst sharing negative emotional experiences with others may subsequently lessen one’s negative feelings leading to a fading effect (e.g., Rimé, 2009; Skowronski, Gibbons, Vogl, & Walker, 2004). However, little research has examined these self-effects of emotion expression within the context of social media. Social media may boost more frequent and more prominent self-effects compared to offline settings due to their social sharing contexts; specifically, social media platforms may spur more frequent self-expressions which are available to a wider and more varied audience (Valkenburg, 2017).

In a social sharing context, socio-affective benefits and cognitive reappraisal are reasoned to evince an intensification effect for positive emotion expression and a fading effect for negative emotion expression (e.g., Nils & Rimé, 2012). The socio-affective benefits (i.e., attention, affection, and support) that one gains in the sharing process may bring further joy when receiving enthusiastic and validating feedback after positive emotion expressions. Likewise, comforting feedback from others can help to reduce distress resulting from negative experiences. The sharing process may also elicit a cognitive reappraisal of the emotional experience, which may subsequently enhance the personal significance of a positive event as well as foster reinterpretation of a negative event (Reis et al., 2010; Rimé, 2009). Social media offer numerous yet novel ways to fulfill these socio-affective and cognitive needs, and may therefore elicit similar intensification and fading effects. However, to fully grasp the consequences of emotion expression on social media, differences between public and private social media settings need to be taken into account. After all, users are able to reach a larger and diverse audience on public social media platforms, while private social media platforms facilitate more intimate and in-depth responses. These public and private social sharing contexts may prompt different self-effects due to differences in the socio-affective and cognitive benefits they offer, and merit further examination.
The current study intends to assess the extent to which the expressions of specific positive (i.e., joy and pride) and negative emotions (i.e., sadness, anger, disappointment, and worry) are associated with either a fading or an intensification of the specific emotion experienced afterwards. The first objective is to establish whether the effects that have been found in offline contexts can be extended to social media. The second objective is to understand whether differences occur when emotions are expressed in public (i.e., Facebook, Twitter, and Instagram) or private (i.e., WhatsApp) social media settings.

Emotion Expression and the Potential Benefits of Sharing

It has been readily established that emotion-eliciting experiences trigger people to express and share their emotions with others (Rimé, 2009). As evident from social support literature, individuals typically seek support from others when distressing events occur in order to cope and reduce that distress (e.g., Stroebe, Stroebe, Abakoumkin, & Schut, 1996). By contrast, the sharing of good news or positive experiences is likely motivated by maintaining the pleasant feelings of the experience and by gaining positive validation from others (e.g., Reis et al., 2010). The internet is replete with expressions of emotions, often verbalized in a more explicit manner than face-to-face-settings allow for (Derks, Fischer, & Bos, 2008). As argued by Derks et al. (2008), online settings evoke a sense of ‘safety’ in expressing emotions due to the lack of non-verbal information and higher levels of control over what one shares, when, and to whom. Due to their social and conversational structures, social media additionally allow for support and affirmation from others through commenting and validation features (e.g., like-buttons) whilst being able to reach a large and varied number of people (Trepte, Dienlin, & Reinecke, 2015). The immediacy with which one can post and share messages with others further adds to the instantaneous manner with which one can obtain such social feedback on social media (e.g., Cui, 2016; Trepte et al., 2015). Social media overall encourage emotion expressions by providing such opportunities for fulfilling the social needs that arise when emotions are shared with others.

A considerable body of research has addressed the question of whether it is beneficial to the self to share positive or negative emotions with others in face-to-face settings (e.g., Rimé, 2009). Much of this research was inspired by the expressive writing paradigm, which focused on the consequences of writing
down one’s thoughts and feelings about distressing or traumatic emotional events (e.g., Pennebaker & Chung, 2011). This writing task essentially reactivates the emotional experience, after which participants are encouraged to actively reflect on this experience. Doing so helps individuals to first acknowledge the emotional experiences and subsequently better comprehend and reduce its impact on the self through cognitive reappraisal, the so-called ‘venting hypothesis’ (e.g., Nils & Rimé, 2012; Pennebaker & Chung, 2011). Expressive writing research has since evolved to include the process of socially sharing one’s emotional experiences and the potential consequences this may have (Pennebaker, Zech, & Rimé, 2001). The social sharing of emotion framework posits that individuals have an inherent tendency to share their emotional experiences with others to deal with the outcomes of these emotions. This social sharing, in turn, can have beneficial self-effects as well as stimulate social bonding (Rimé, 2009).

In terms of beneficial self-effect of socially sharing one’s emotions, Nils and Rimé (2012) have suggested that either socio-affective or cognitive benefits need to be obtained. As mentioned above, the main reason for people to seek contact with others to talk about emotions is to obtain certain responses. Socio-affective responses may serve to help another through attentive listening and verbalizing support or comfort. Receiving such responses, in turn, provides the attention, affection, or support that one needs to savor the experience or facilitate relief (Nils & Rimé, 2012). Another type of response that one may obtain is cognitive. Listeners may offer advice or a different perspective on the experience that triggered the emotion, which may elicit reflection and cognitive reappraisal (Nils & Rimé, 2012). This cognitive benefit corresponds to the ‘cognitive effort’ that, within the expressive writing paradigm, participants are encouraged to invest in order to minimize the experienced emotional intensity of an event.

In light of these benefits, the sharing of negative emotions is commonly believed to bring relief and consequently dampen the negative affect one experiences. Specifically, talking about a negative emotional experience may at first reactivate the negative affect, but the socio-affective benefits from being listened to may help reduce the distressing feeling (e.g., Afifi, Shahnazi, Coveleski, Davis, & Merrill, 2017; Albrecht, Burleson, Brant, & Goldsmith, 1994) and foster temporary relief (Nils & Rimé, 2012). However, to further accelerate and dissolve the negative emotions associated with the event, cognitive reappraisal is necessary, as Nils and
Rimé (2012) have pointed out. Hence, when listeners lend the support that elicits reflection and reframing of the negative experience, the benefits are argued to shift from temporary relief to complete recovery. Other research has highlighted that unpleasant feelings associated with a negative emotional experience faded more strongly as a result of frequent disclosure in group settings (Skowronski et al., 2004). Given that social media generally allow for (concurrent) support from multiple people, it therefore seems reasonable to expect a fading effect to occur when negative emotions are expressed.

While the expression of negative emotions can minimize negative emotions when socially shared, the sharing of positive emotions with others is generally reasoned to intensify one’s positive feelings. The socio-affective benefits gained through social sharing offer a stronger impact in preserving and boosting one’s positive affect (Reis et al., 2010). Verbalizing one’s positive emotional experiences reactivates the positive feelings about a given event, which may be subsequently reinforced by obtaining positive feedback. Specifically, socio-affective responses may validate the positive experience and legitimize the experienced positive affect (Rimé, 2009). Research on capitalization supports this benefit of telling others about one’s positive emotional experiences, emphasizing that savoring a positive experience and receiving validation are important motivators for why people are driven to express and share positive emotions (Langston, 1994). This beneficial intensification effect of sharing, rather than merely verbalizing, one’s positive emotions is further supported by Skowronski et al. (2004), who concluded that pleasant feelings are more likely to be enhanced after disclosing positive emotions to an audience. Hence, expressing positive emotions on social media likely elicits an intensification effect as one is able to reach multiple others.

Socio-affective and cognitive reappraising responses are thus important for beneficial self-effects, both for positive and negative emotion expressions. In case these benefits are not obtained, negative emotions may resurface and intensify while positive emotions may fade (e.g., Rimé, 2009). Nevertheless, the intensification effect for positive emotion expression and the fading effect for negative emotion may likely extend to social media. To gain a more comprehensive understanding of these self-effects, we focus on specific emotion expressions that are common across social media platforms (i.e., joy, pride, sadness, anger, disappointment, and worry). Taken together, we expected the following:
H1: Positive emotion expressions (i.e., joy and pride) on social media will lead to higher ratings of positive emotion experienced afterwards (i.e., intensification)

H2: Negative emotion expressions (i.e., sadness, anger, disappointment and worry) on social media will lead to lower ratings of negative emotion experienced afterwards (i.e., fading)

Public versus Private Expressions of Emotions
An important distinction that characterizes different social media platforms is that of public versus private settings. Here, public can be described as the potential to reach a larger scale of people, enabling broader distribution and greater visibility of one’s message as facilitated by the platform (boyd, 2011). Platforms characterized by networked technologies, such as Facebook, Twitter, and Instagram, generally offer this type of publicness. Compared to offline conceptualizations of ‘publicness’, social media add more layers to public expressions by bringing together multiple and diverse audiences into one setting (Baym & boyd, 2012). Platforms and features focused on instant messaging, such as WhatsApp, represent a more private social media setting. In this sense, private refers to restricted visibility, as platforms such as WhatsApp facilitate interactions with a single or few individuals without the possibility for others to view its contents (Karapanos, Teixeira, & Gouveia, 2016).

Research has shown that individuals adjust their behavior and expressions based on differences between private and public social media (e.g., Bazarova, Choi, Sosik, Cosley, & Whitlock, 2015; Choi & Toma, 2014; Hogan & Quan-Haase, 2010; Lin, Tov, & Qiu, 2014). For instance, in private Facebook messages people tend to share more intense as well as less positive emotions compared to Facebook’s public features (Bazarova et al., 2015). These differences between private and public settings are often linked to self-expression motives, such as information sharing or relational development (e.g., Bazarova & Choi, 2014). Research has shown that private platforms are more likely used to interact with close ties, and in turn foster more intimate interactions and greater perceived intimacy (e.g., Hu, Wood, Smith, & Westbrook, 2004). Normative perceptions have also been found to vary across public and private platforms, in that negative emotion expressions are generally
considered less appropriate on public social media platforms compared to private social media platforms (e.g., Waterloo, Baumgartner, Peter, & Valkenburg, 2017). Overall, people seem to take to different social media for certain expressions or interactions, based on the public or private social sharing context that platforms offer. However, comparative research between public and private social media platforms is still limited.

One claim that has been put forward is that public social media settings may strengthen self-effects in online settings (e.g., Valkenburg, 2017). While both public and private settings allow for socio-affective and cognitive benefits in the process of composing and sharing self-expressions, public settings may offer more socio-affective benefits due to the greater number of people one is able to reach. Related research on selective self-presentation found individuals to achieve a self-concept change in a public online setting while a private mediated setting did not evoke such self-effect (e.g., Gonzales & Hancock, 2008). This effect was reasoned to result from an activation of self-concept because public settings evoke a feeling of accountability for one's expressions, termed ‘public commitment’ (Tice, 1992). For the expression of emotions, however, beneficial self-effects may be better explained by receiving social feedback than by public commitment. A study on emotion expression has found individuals to report, overall, to experience satisfaction when sharing positive emotional experiences in both public and private Facebook channels (Bazarova et al., 2015). Sharing personally relevant emotions were found to lead to greater reported satisfaction in a public setting compared to a private setting. To explain this, the authors suggest that the number of received comments appeared to play an important role in subsequent satisfaction. Theoretically, the intensification effect for sharing positive emotions mainly depends on socio-affective benefits (Reis et al., 2010), which public social media platforms offer more of in the form of comments and likes. Consequently, public social media settings may more likely strengthen the intensification of positive emotion compared to private social media settings.

Based on the reasoning that private settings allow for more intimate and in-depth conversation, beneficial emotional outcomes for negative emotion expression are more likely to be obtained in private social media settings. As Nils and Rimé (2012) argue, for negative affect to effectively be reduced in a social sharing context, the cognitive benefits one can obtain likely outweigh the benefits one can obtain from
merely fulfilling socio-affective needs. Instant messaging platforms have been argued to allow for a connected presence with close others in a more synchronous manner, and therefore present an outlet for seeking and providing timely support and advice in times of difficulty (Cui, 2016). Research has, furthermore, indicated that these private types of interactions offer more emotional engagement, as they are often used for the sharing of emotional and intimate content (e.g., Quan-Haase & Young, 2010). From that perspective, in private social media settings individuals are more likely to receive specific advice and support for reflective thought from specific friends, which may elicit cognitive reappraisal of the negative emotional event. Compared to public social media settings, the fading effect for negative emotion expression is likely amplified in a private social media setting. Accordingly, we hypothesized:

H3: The expected intensification effect for positive emotion expression will be stronger in public social media settings compared to a private setting

H4: The expected fading effect for negative emotion expression will be stronger in a private setting compared to public social media settings

Method

Sample and Procedure
As part of a larger research project, a professional research company collected survey data among 1,201 young individuals in March 2016 in line with institutional ethical procedures. The sample consisted of 591 late adolescents (15-18 years) and 610 emerging adults (19-25 years). In terms of gender, 48.8% of the full sample was male, and 51.2% was female. After individual as well as parental consent for those under the age of 18 years was obtained, participants completed the survey for which they received monetary compensation in keeping with the research company’s guidelines.

Participants were first asked to indicate which social media platforms they had used at least once in the month prior to the survey, to allow for subsequent filtering of questions related to each of the four platforms of interest (Facebook, $n = 1060$;
Twitter, \(n = 416\); Instagram, \(n = 655\); and WhatsApp, \(n = 1083\). Order-effects were accounted for by randomizing the order in which platform-specific questions were presented.

**Measures**

*Emotion self-effect*

To assess self-reported intensification or fading of emotions after posting a specific emotion expression, participants were first asked to indicate the frequency with which they shared each emotion expression for every platform in use. The specific emotion expressions included sadness, anger, disappointment, worry, joy, and pride. Participants who indicated to never post a specific emotion expression were not presented with this measure for that particular emotion expression (attrition rate ranged from 41% to 2%, which equals 432 and 18 participants respectively). For those who indicated to have posted specific emotion expressions, two items were presented to measure self-reported intensification or fading of emotion for each of the emotion expressions of interest. That is, participants were asked to report how often they felt less (item 1) or more (item 2) of the emotion after having posted the emotion expression on a scale from 1 (never) to 5 (very often). As an example, the measures for sadness were presented as follows: “After you’ve posted/sent something that made you sad on [platform], how often do you feel less and/or more sad after having done so?”, with subsequent items “I’ve felt less sad” and “I’ve felt more sad”.

*Public versus private*

The measures for emotion self-effects were used for each of the four platforms, which totaled to 12 items per platform and 48 items for four platforms. Given that the responses per platform provided within-subjects data, the dataset was restructured to a long format to allow for differentiation of responses between public and private expressions of emotion. Hence, a variable was created to represent public (i.e., Facebook, Twitter, and Instagram) versus private (i.e., WhatsApp) emotion expression, for which responses on the items for ‘more’ and ‘less’ felt emotions after expression were maintained. Doing so allowed for repeated measures analyses in the linear mixed modeling function using SPSS.
Age and gender
Participants were asked to indicate their age through an open-ended response format. This continuous variable was subsequently transformed into a dummy variable, reflecting the age category corresponding to the age ranges of late adolescents (15 to 18 years; coded as 0) and emerging adults (19 to 25 years; coded as 1). In addition, participants were asked whether they are male or female. Both age and gender were considered as control variables in the tested models.

Analyses
Mixed modeling was opted for as it effectively handles missing data, since subjects with missing data points are not removed from the analyses (e.g., Bagiella et al., 2000). In addition, the mixed models approach allows for fitting specific covariance structures to the data. For the purpose of this study compound symmetry was selected, which treats all variances as approximately equal and all covariances as approximately equal (Bagiella et al., 2000). This structure is commonly used if there is no logical ordering to the observations, which applies to the current data. Models were tested under Maximum Likelihood estimation. The Bonferroni adjustment was applied to all models to account for multiple testing (Westfall, Johnson, & Utts, 1997).

The variable representing emotion self-effect, as in more and less emotion felt after emotion expression, was included as a repeated factor (two levels), as was the public and private emotion expression variable (two levels). In doing so, we were able to assess whether more and less felt emotion that participants reported on significantly differed from each other for each emotion expressed. In addition, it allowed for modeling these differences between responses for public and private platforms. These mixed models were run for each of the six emotion expressions separately.

Results
Intensification or Fading of Emotion Expressed
To test Hypothesis 1, which stated that the expression of positive emotion would lead to higher positive emotion experienced afterwards (i.e., intensification) than
lower experienced positive emotion, mixed models were run for the emotions of joy and pride. For joy, the results indicated that participants reported to significantly feel more joy ($M = 3.18, SE = .02$) than less joy ($M = 2.13, SE = .02$) after expressing joy on social media in general, $t(3090) = -41.03, p < .001$. Similarly, participants reported to significantly feel more pride ($M = 3.12, SE = .02$) than less pride ($M = 2.12, SE = .02$) after sharing something they felt proud of, $t(3032) = -39.24, p < .001$. These results agree with the general expectation of intensification of positive emotions, and are thus in support of Hypothesis 1.

Hypothesis 2 focused on negative emotion expression, with the expectation that it would lead to lower negative emotion experienced afterwards (i.e., fading) than higher experienced negative emotion. The results for sadness revealed that participants reported to significantly feel less sad ($M = 2.77, SE = .02$) than more sad ($M = 2.35, SE = .02$) after expressing something that made them sad on social media in general, $t(2281) = 16.47, p < .001$. Similarly, participants reported to significantly feel less anger ($M = 2.73, SE = .02$) than more anger ($M = 2.40, SE = .02$) after sharing something they felt angry about, $t(2357) = 13.26, p < .001$. For disappointment, results showed again that participants felt significantly less disappointed ($M = 2.64, SE = .02$) than more disappointed ($M = 2.35, SE = .02$), $t(2345) = 12.49, p < .001$. Finally, participants reported to feel significantly less worried ($M = 2.71, SE = .02$) than more worried ($M = 2.39, SE = .02$) after expressing something on social media that made them worry, $t(2370) = 13.00, p < .001$. Overall, these findings evidence a fading of negative emotions felt after expressing negative emotional experiences on social media, supporting Hypothesis 2.

Public versus Private Expressions of Emotions
To further understand the extent to which intensification or fading effects occur after the expression of emotion on social media, differences between public and private social media platforms were examined by looking at the interaction of both repeated factors (emotion self-effect; public vs. private). Given the pattern that resulted from the specific emotions self-effects as reported above, two variables were created to represent the mean of negative emotions all together as well as for both positive emotions in order to test the third and fourth hypotheses. Hypothesis 3 predicted that the expected intensification for positive emotion expression would be stronger in public social media settings compared to a private setting.
In contrast, Hypothesis 4 posited that the expected fading for negative emotion expression would be stronger in a private setting compared to public social media settings.

For positive emotion expressions, the omnibus test of fixed effects revealed a non-significant interaction of the repeated factors \((F(1, 3118) = 1.68, \ p = .194)\), indicating that the intensification for positive emotion expression was similar across public and private social media settings. Pairwise comparisons, however, revealed significant differences. These comparisons showed that participants reported to feel more positive emotions after sharing positive emotions in a private social media setting \((M = 3.27, SE = .03)\) compared to public social media settings \((M = 3.02, SE = .03)\), \(F(1, 3273) = 54.89, \ p < .001\). However, self-reports revealed the same difference for less positive emotions experienced, in that participants reported to also feel less positive emotions after sharing positive emotions in a private social media setting \((M = 2.21, SE = .03)\) compared to a public setting \((M = 2.02, SE = .03)\), \(F(1, 3273) = 31.31, \ p < .001\). While self-reports were thus higher in the private social media setting, the difference between reports on more and less positive emotions experienced remained similar in the public social media settings. This pattern contradicted our expectation, and as such Hypothesis 3 was not supported.

The omnibus test of fixed effects did reveal a significant interaction of the repeated factor for negative emotion expressions \((F(1, 2562) = 26.32, \ p < .001)\). Pairwise comparisons revealed that participants reported to have felt more negative emotions after expressing negative emotions in a private social media setting \((M = 2.46, SE = .03)\) than they did in public social media settings \((M = 2.24, SE = .03)\), \(F(1, 2806) = 54.17, \ p < .001\). However, self-reports for experiencing less negative emotions were much higher in a private social media setting \((M = 2.88, SE = .03)\) compared to public social media settings \((M = 2.46, SE = .03)\), \(F(1, 2806) = 205.23, \ p < .001\). Hence, while a fading effect emerged in both public and private social media settings, the self-reported fading appeared greater in a private setting. Hypothesis 4 was therefore supported. To control for potential individual variations, we additionally tested for the influence of age and gender. No main effects were found for these variables when included in the models as covariates. As such, the above reported findings seem independent of age and gender.
Discussion

Previous works on expressive writing (Pennebaker, 1997) and the social sharing of emotion (Rimé, 2009) have brought attention to the potential benefits of expressing and sharing one’s emotional experiences. Across online settings, manifestations of emotion expressions have been well-documented (Bazarova et al., 2015; Derks et al., 2008) yet the consequences for senders are relatively understudied. To that end, the current study addressed the extent to which intensification and fading of positive and negative emotions were experienced after emotion expressions on social media. A second goal was to establish whether there would be different outcomes between public and private social media platform. This allowed for a better understanding of emotion self-effects within the different social contexts that social media generate.

The data generally indicated that, for the expression of negative emotions, participants felt less negative emotions afterwards. Conversely, participants felt more positive after expressing positive emotions. Based on this, it seems that an intensification effect persists for expressing positive emotions and a fading effect occurs for expressing negative emotions on social media. The intensification of positive emotions is consistent with expectations, further supporting the idea of capitalization that has previously been put forward in research on emotion expressions (Reis et al., 2010). Likewise, the finding for negative emotion expression supports the notion that sharing negative emotions with others on social media may reduce the negative affect resulting from the experiences that elicited them (Nils & Rimé, 2012; Skowronski et al., 2004). Accordingly, the beneficial self-effects of emotion expression that have been found in face-to-face settings can also be obtained through social media.

The results furthermore confirmed a stronger fading effect for negative emotions in private compared to public settings. Self-effects have previously been argued to become stronger in public settings (Valkenburg, 2017). For stronger fading effects to occur after negative emotion expressions, however, it seems that private settings facilitate the needed socio-affective and cognitive benefits more effectively. That is, private platforms generally allow for more intimate and in-depth support (Cui, 2016), which may help to reflect on the negative emotional experience and as such facilitate cognitive reappraisal.
The findings for positive emotion expression indicate that an intensification effect occurs approximately equally in both public and private settings. Public settings were expected to cultivate a stronger intensification of positive emotions, due to the greater amount of feedback one could obtain. However, the current finding seems in line with the study by Bazarova et al. (2015) who found greater satisfaction after sharing positive emotional experiences regardless of being expressed in public or private Facebook contexts. The socio-affective benefits that are important to evoke intensification effects thus seem to be achieved in both public and private social media settings. Overall, these findings indicate that the extent to which beneficial outcomes may be obtained depend on the social media platform one chooses for expressions of emotion, especially negative emotions.

Contributions and Implications
Our findings point toward beneficial outcomes of expressing emotions within social media settings, and thereby limn a positive perspective on sharing personal self-related information online. The benefits of expressing emotions online seemingly outweigh the potential costs, which, though tentatively, may explain why people are drawn to sharing their emotions in a variety of social media settings. Social media have been marked to reflect a positivity bias, in that individuals tend to express themselves more positively than negatively (Reinecke & Trepte, 2014). While in part due to the positivity norms that have been found to reign on social media platforms (Waterloo et al., 2017), the maximization of positive affect may additionally explain the tendency to engage in such selective self-presentation on public social media platforms. The current findings offer new insights into the possible consequences of such selective self-expressions online. The challenge for future research is to further disentangle the mechanisms that lead up to the beneficial outcomes as a result of these expressions.

As stressed by Valkenburg (2017), self-effects do not occur in isolation within social media settings. Individuals are both senders and receivers of messages in a dynamic and simultaneous manner. Theoretically, responses that facilitate socio-affective and cognitive benefits play a decisive role in how senders feel after expressing themselves via social media. Receiving comments and feedback on one’s emotion expression appears to facilitate intensification or fading effects, albeit that such effects may strongly depend on the nature of responses and from
whom these responses are obtained (e.g., Greitemeyer, Mügge, & Bollermann, 2014; Rains & Brunner, 2015). To that end, research would gain from more insights into the impact of socio-affective, cognitive reappraising, or even dismissive feedback on emotional self-effects across different social media platforms. Likewise, the emotional experiences one expresses online may conceivably transfer to offline conversations (e.g., Caughlin & Sharabi, 2013), potentially fostering more long-term effects on well-being. To gain a full perspective on the underlying mechanisms of intensification and fading effects, both the online and offline sharing of emotions need to be carefully and conjointly considered.

The findings on public versus private social media settings further inform us on how different social sharing contexts online may affect the potential outcomes of emotion expression. Previous research on cognitive self-effects (viz., self-concept change) found public settings to result in stronger self-effects based on the logic of public commitment (Gonzales & Hancock, 2008). The current study found private settings to enhance the self-effect of negative emotion expression, while the magnitude of the intensification effect for positive emotion expression did not differ between public and private social media settings. These findings tentatively question the explanation for self-effects online to be generally rooted in the idea of public commitment, at least for the expression of emotions. Accordingly, the explanation of self-effects and their strength seemingly depend on the specific type of self-expression involved. To gain a more nuanced perspective on the intricate workings of self-effects, it is of interest to further examine the personal consequences of different types of self-expressions across different social media settings, and further assess other explanations that underlie these (e.g., perceived opportunity for emotion-regulation, see Cheung, Gardner, & Anderson, 2015).

In addition, socially mediated publicness is not a simple dichotomous distinction between public and private, but rather a degree of publicness complicated by differences in audience size and composition (Baym & boyd, 2012). Further understanding the influence of public online settings on interpersonal and intrapersonal consequences requires consideration of these audience differences. Notably, current social media platforms allow their users to actively adjust the privacy settings of their messages, which could further influence the perception of the ‘imagined audience’ and subsequent self-effects. Further research may aim to explore how self-effects on cognition, emotions, attitudes, and behaviors manifest
themselves online, taking these complexities of audiences, and hence message visibility, into account.

In the current study, we relied on retrospective self-reports to gain an initial sense of whether the beneficial self-effects of offline self-expressions may extend to social media. Although experimental designs may have a higher internal validity than our survey results, experimental designs on emotional self-expressions have also been criticized. Pennebaker and Chung (2011) for example note that “forcing individuals to write about a particular topic or in a particular way may cause them to focus on the writing itself rather than the topic and the role of their emotions in the overall story” (p.423), which could lead to unreliable and invalid results. As such, relying on retrospective self-reports may provide insights into what users themselves perceive to happen after different emotion expressions, which in the end may have uncovered more authentic responses. Future research could strive to triangulate the results from experimental designs with self-reports and action log data to better discern the intrapersonal mechanisms that are at play during and after the sharing of emotions on social media. Given the ubiquity of emotional expressivity online, further understanding when and how self-effects of emotion expression occur in online environments is imperative for researchers who are interested in the dynamics of current interpersonal and mass communication processes.
References


The current study aimed to extend research on self-concept change (i.e., a short-term change in self-concept as a result of selective self-presentation in public online settings). Based on public commitment theory, previous research has identified the public nature of online settings to prompt these changes. This study specifically focused on different degrees of publicness (i.e., public and semi-public), as well as the option to customize visibility settings typically embedded in social media settings. In an experiment, participants \((N = 251)\) were asked to present themselves as either introvert or extravert, in a public or semi-public setting, or a setting in which participants were allowed to choose how public their selective self-presentation would be (i.e., customization). The manipulations did not lead to changes in self-concept, indicating that the degrees of publicness in the context of social media do not necessarily prompt commitment to self-presentations as expected. These findings shed light on the consequences of selective self-presentations for the self in different online settings, and the mechanisms that underlie these.
Every minute, millions of people share carefully crafted bits and pieces about themselves that add to their online self-presentations on social media platforms such as Facebook or Twitter. What some have called a social media revolution (Smith, 2009), poses new challenges to our understanding of self-presentation, that is, the process of managing the impressions that others may form (Goffman, 1956; Leary & Kowalski, 1990). The rapid technological developments within social media platforms have fundamentally changed how and to whom people present their identity. Notably, the impact of being ‘public’ in digital environments is still poorly understood, in particular in relation to the extent to which a message is visible to different, potentially unintended, audiences. Some recent scholarship has demonstrated that public self-expression in an online setting may subsequently lead to a change in individuals’ self-concept (also termed identity shift; e.g., Gonzales & Hancock, 2008; Walther et al., 2011). Within the current age of ‘mass self-communication’ (Castells, 2007), it is all the more relevant to fully understand such potential consequences of mass self-communication for the self.

The phenomenon of a self-concept change fits in with the broader media-effects field of self-effects. This relatively new line of research deals with the effects of self-expression on senders’ emotions, attitudes, cognitions, or behaviors, rather than the typical focus of effects on receivers (Valkenburg, 2017). Self-concept changes have so far been theoretically grounded in the idea that public settings elicit an internalization of presented traits due to an increased sense of accountability towards an audience. In an experiment, Gonzales and Hancock (2008) found that individuals who presented themselves as extraverted, compared to introverted, rated themselves as more extravert after doing so on a public blog than those who did so in the private setting of a text document. The notion of public self-expression, rather than private self-expression, thus seems a relevant factor in obtaining this self-effect. As social media have now become dominant means of self-presentation, especially selective self-presentation, it is meaningful to examine the extent to which self-concept changes unfold under the public conditions that social media offer.

Social media provide spaces where users initiate and control their public self-expressions. Specifically, users consciously appropriate the tools that social media provide when sharing their expressions (Baym & boyd, 2012). These tools facilitate users to post messages that are visible to everyone (i.e., public), although
not necessarily guaranteed, or to a more narrowly defined subset of people (i.e., semi-public). Some tools may further heighten the potential for visibility, for instance by making content searchable or cross-posting content on other outlets. It is necessary to consider these characteristics of publicness to more effectively understand how public self-expressions on social media impact potential changes in users’ self-concept. By means of an experiment, the current study accordingly aims to further extend research on self-concept change in social media-like settings, and disentangle the impact of the different types of public sharing that social media affords. Specifically, we distinguish between public and semi-public settings, as the literature has outlined this as one of social media’s defining features (boyd, 2011). In line with the idea that social media are primarily user-controlled spaces, we additionally account for the opportunities to customize the visibility of one’s self-expression that platform interfaces commonly afford.

**Understanding Self-Concept Change**

The ‘change’, in its conceptual definition, refers to the adjustment of an individual’s self-concept to be more in agreement with the self-presentation, as based on subsequent self-assessment about the self. The theoretical principle of self-concept change is rooted in the works of Tice (1992) and Schlenker, Dlugolecki and Doherty (1994) who established this effect as a result of selective presentations of the self in offline settings. In explaining the phenomenon, three mechanisms have been suggested to play a role. First, as outlined in self-perception theory (Bem, 1967), individuals have been argued to reflect on their own, prior, behavior to gain insight on their self-concept. In this reasoning behavior thus precedes self-conceptual construction, which may explain how certain acts of self-presentation subsequently come to influence beliefs about the self. A second mechanism is based on biased scanning theory (Jones, Rhodewalt, Berglas, & Skelton, 1981). This theory maintains that one’s self-concept is composed of multiple sub-conceptions rather than being a single construct, for which some may become more or less salient in response to one’s overt behavior in a given situational context. To that end, presenting oneself in a selective manner (e.g., extravert) may activate memories about experiences that fit with the content of that self-presentation (e.g., experiences in which one acted in an extraverted way), and influence subsequent self-assessment.

Both self-perception and biased-scanning represent processes that occur
inside the person without the presence of others to observe the behavior (Tice, 1992). However, the internalization of a presented trait such as extraversion has been shown to become much stronger when other people are perceived to be present (Schlenker et al., 1994; Tice, 1992). This amplified effect of publicly performed behaviors builds on the notion of ‘public commitment’, which presents the third mechanism used to explain self-concept changes. In this view, individuals feel a need to commit to an identity they have publicly claimed to be to avoid the risk of coming across as inconsistent. Potentially, the people who observe the self-presentation may hold them accountable when inconsistencies are noticed (Schlenker et al., 1994). As such, selective self-presentation, which is typically a public performance, may influence individuals’ self-assessments on their self-concept through a combination of internalization and public commitment.

Given the centrality of selective self-presentation within computer-mediated settings (e.g., Walther, 1996), self-concept change may very well extend to the online realm. Computer-mediated technologies have however changed the way we express ourselves and manage the impressions we leave on others in two prominent ways. First, computer-mediated settings offer a greater sense of control over one’s self-presentations (e.g., Walther, 1996). As computer-mediated communication is typically asynchronous (i.e., delayed), users have more time to refine what they want to share online. Similarly, users have control over the auditory and visual information (e.g., tone of voice or facial expressions) they want to share, and are thereby able to conceal certain self-aspects. Online settings therefore enable users to selectively reveal information and optimize their self-presentations accordingly. Second, it is easier to reach a larger number of people online than offline, especially on blogs, websites, and public social media platforms (boyd, 2011). Against this background, Gonzales and Hancock (2008) and Walther et al. (2011) aimed to understand how self-concept changes would manifest online. To date, effects were found for expressions in public blog settings and for subsequent feedback that individuals obtained. Carr and Foreman (2016) additionally showed that public feedback on Facebook mattered, especially when received from a familiar source.

Public and Semi-Public Expressions
In recent years, social media have become immensely popular as platforms for self-
presentation (e.g., boyd & Ellison, 2007; Livingstone, 2008; Papacharissi, 2011). On these platforms, people typically create a profile, upload information and pictures, and share smaller bits of self-related information through status updates, tweets, comments, or audio/visual uploads. Users may do so within a typically bounded system (boyd, 2011). Social media are highly focused on social connections, reflected in the networked nature of adding friends, accepting followers, or following others. The number of ‘friends’ or ‘followers’ are often displayed on user profiles, and serve as indirect cues of who may view the shared content. Through privacy settings, users may choose to allow accessibility to essentially everyone on the internet (i.e., public), or limit accessibility by setting their preferences to ‘friends only’ or to only those who one has accepted as followers (e.g., Debatin, Lovejoy, Horn, & Hughes, 2009). The latter more bounded semi-public profile reduces the visibility of one’s self-expressions to a more narrowly defined potential set of receivers.

How public or visible one’s self-expressions on social media are is further shaped by other factors (for a more extensive account, see boyd, 2011). For one, the content that users share on social media typically remains visible long after it has been shared. As such, shared content on social media persists and might, over time, be viewed by an increasing number of people. In addition, users are able to ‘replicate’ content across other online platforms and forums (e.g., Helmond, 2015): What one posts on Instagram may for instance be cross-posted on Facebook, or users may share someone else’s post within their own networks (e.g., retweets). Other features, in turn, facilitate the searchability of content. Many platforms offer a search function so other users may easily find content they are interested in. For instance, users are able to add metadata to a post (e.g., hashtags) to render its content searchable based on the grouping of posts with similar metadata, which may further increase the number of people to view the post (e.g., Papacharissi & De Fatima Oliveira, 2012). Consequently, ‘publicness’ on social media is not a simple public-private dichotomy, but a matter of degree. Against this background, the impact of public self-expression on potential self-concept changes on social media may differ depending on whether users express themselves within an entirely public or a more constrained semi-public setting.

Gonzales and Hancock (2008) have noted the importance of studying whether greater publicness leads to stronger self-concept changes. Whereas two out of the three studies on self-concept change used blog settings (e.g., Gonzales & Hancock, 2008; Livingstone, 2008; Papacharissi, 2011). On these platforms, people typically create a profile, upload information and pictures, and share smaller bits of self-related information through status updates, tweets, comments, or audio/visual uploads. Users may do so within a typically bounded system (boyd, 2011). Social media are highly focused on social connections, reflected in the networked nature of adding friends, accepting followers, or following others. The number of ‘friends’ or ‘followers’ are often displayed on user profiles, and serve as indirect cues of who may view the shared content. Through privacy settings, users may choose to allow accessibility to essentially everyone on the internet (i.e., public), or limit accessibility by setting their preferences to ‘friends only’ or to only those who one has accepted as followers (e.g., Debatin, Lovejoy, Horn, & Hughes, 2009). The latter more bounded semi-public profile reduces the visibility of one’s self-expressions to a more narrowly defined potential set of receivers.

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2008; Walther et al., 2011), the most recent self-concept change study used individuals’ Facebook as the public space in which to self-present, representative of a more semi-public setting. From a public commitment perspective, which stresses the potential that other people may hold the self-expresser accountable when inconsistencies are observed (e.g., Tice, 1992), semi-public social media settings may offer a safer bounded space for selective presentations of the self than public social media settings. In semi-public spaces, users may feel less urged to commit to their self-expressions as there are fewer individuals to worry about. Conversely, public settings may maximize the risk that unintended others view one’s self-expressions. For instance, if content is available for people outside of one’s network to view, a post could potentially be found and read by future employers and colleagues, even long after it has been posted. This may heighten the perceived risks for accountability, and strengthen self-concepts more so than semi-public expressions would.

In line with previous work, we overall expected self-concept change to occur in both public and semi-public settings. For public settings, we subsequently expected an amplification of this self-effect relative to a semi-public setting. We therefore hypothesized:

H1: Following a self-presentation in a public online setting, individuals presenting themselves as extraverts are expected to rate themselves as more extraverted than individuals presenting themselves as introverts (i.e., self-concept change)

H2: Individuals who express themselves in a public setting will experience greater self-concept change than those who express themselves in a semi-public setting

Public Customization
Social media afford enhanced control over one’s self-expressions. Moreover, their interfaces offer various options for users to express themselves by active use of expressive tools (e.g., animated emoji reactions, likes, stickers, or various visual effects). Concurrently, as is evident from the above discussion, users are able to actively select and delineate ‘who sees what’. In others words, social media users may customize their audience according to their preferences. Customization refers to the possibility to deliberately modify the course and content of an interaction
in CMC settings in line with one’s needs, brought on by contemporary media technologies (Sundar, 2008). It is up to users to change and select features that will restrict or enhance the publicness of their messages, and are thus actively involved in the degree of publicness that may subsequently impact the perceived level of accountability. To gain a thorough understanding of self-concept changes within the public context of social media, then, one must also consider the influence of being able to actively manage and select the degree of publicness of an online performance.

Social media allow users to a priori construct public or semi-public profiles by adjusting their privacy settings (Tufekci, 2008). In addition, users are able to specify public and semi-public interactions for each message individually, and delete posted content which they in hindsight regret. These features thus continuously present users with a choice of whom they want their messages to be visible to. On Facebook, for instance, users are presented with the question ‘who should see this?’ before posting a status update. In response, users can indicate whether they want a status update to be visible for ‘anyone on or off Facebook’ (public), or for ‘friends only’ (semi-public). Users are thereby not only able to compose a message in a more controlled manner, but may also more actively customize their potential audience (boyd, 2011).

This possibility for customization can affect self-concept change as it may potentially accelerate the process of internalization. The possibility to customize how ‘public’ a message is creates the sense of agency that embodies the appeal of interactive media; the user is an active participant, able to steer the communication to his or her own needs (Sundar, 2008). Agency, in this view, relates to the feeling of being a relevant actor in the communication process. This sense of agency can have direct effects on cognitive, affective, and behavioral responses because of greater attentional effort towards the content, both during and after the interaction (Sundar, 2008). This increased attention towards a message ties in with the aforementioned biased scanning theory, which posits that greater attention to a particular self-presentation could make a particular sub-conception about the self more salient. The act of actively customizing how public one’s self-expressions will be might thus further strengthen the internalization process of an expressed identity trait.

Additionally, the possibility to customize the ‘audience’ may increase the public
commitment to a self-presentation. As Schlenker et al. (1994) note, commitment to an act may be magnified not only by the extent to which it is public or irreversible, the degree of perceived choice in performing the act may in itself also increase one’s commitment. For this reason, we expect that being able to customize the publicness of their self-presentation will lead to stronger public commitment, hence greater self-concept changes. Moreover, this effect will be stronger when individuals actively choose to share their self-presentation publicly relative to semi-publicly. Therefore, we hypothesized:

**H3:** Individuals who express themselves in a setting where they can customize the publicness of a message will experience greater self-concept change than those who express themselves in a setting where they cannot customize the publicness of a message.

**H4:** The pattern hypothesized in H2 will be more pronounced for those who are able to customize the publicness of their message than for those who are not able to customize the publicness of their message.

**Method**

**Sample**
In total 276 individuals participated in the experiment. Participants were recruited through a departmental subject pool at a Dutch university, and were rewarded with either research credits or 5 euros. After removing incomplete responses and outliers (more than 3 SD from the mean), a final sample of 251 participants, between 18 and 35 years of age ($M = 23$, $SD = 3.1$), remained, of which 181 were female (72%) and 70 were male (28%).

**Experimental Design**
Participants were randomly assigned to one of six stimulus conditions as part of the $2 \times 2 \times 2$ partial factorial between-subjects design employed in this study, reflecting the factors of personality self-presentation (introversion vs. extraversion), degree of publicness (semi-public vs. public) and customized publicness (yes vs. no). Two
additional conditions were formed post-hoc as a result of the self-selection process in the customized publicness conditions, adding up to 8 conditions in total. As customization is inherently about users’ choice and selection, participants who were randomly assigned to the customized publicness conditions could self-select whether they wanted their message to be public or semi-public. The settings that participants in these conditions selected were extracted from the website interface, and coded. The coding of this data resulted in the creation of additional public and semi-public conditions.

Procedure
Participants were seated behind a computer in a private room in the university laboratory building. After giving active consent, participants were presented with a cover story. Participants were told that ‘The Personality Project’, as the research had been advertised, was a large-scale online project that aimed to assess whether and how people detect personality traits in written texts. Additionally, participants were told that an online community platform (thepersonalityproject.org) had been created to allow different universities and their students to easily participate. Because the project was still at an early stage, as it was framed, an equal amount of testcases (those who write a piece of information incorporating a personality trait) and evaluators (those who identify personality traits in written texts) were needed. This cover story is in line with previous self-concept shift studies, and was created to: 1) provide a realistic setting for letting participants write a self-related text; and 2) reinforce the notion that the message would be visible to an online audience.

Participants were subsequently presented with information about the platform and instructions concerning the self-presentation, which included five steps: 1) login on the website by clicking the link and using the login details; 2) start the message with first name, age, sex and university being attended; 3) explore the settings of the message, which differed slightly per condition; 4) write a text based on five questions (discussed below); and 5) post the message on the website. After posting the message, participants continued with the questionnaire constructed in Qualtrics, which included posttest measures of self-reported extraversion, and manipulation checks concerning the degree of publicness and customization that participants perceived. After finishing the questionnaire, participants were thanked for their participation and debriefed.
Stimuli
In line with the cover story, a website was created that reflected a community platform where researchers and students from different universities within the Netherlands could work together on the make-believe project ‘The Personality Project’. The website was made to resemble the social network site Facebook in its layout, specifically the layout of a Facebook group (see Figure 1). The website included a cover photo, an ‘about’ box located at the right side of the page, a message box located on the top center of the page, and mock posts located below the message box, a tagcloud located at the right side of the page, and the possibility to ‘logout’. Similar to Facebook, when participants would click the ‘post’ button after writing their message, the post immediately appeared below the message box as the last posted message. In a pretest ($N = 40$), the majority of participants (67%) had indicated that the website resembled a social media platform.

To make participants believe the site was already up and running, and thereby enhance realism, three mock posts were created and were shown on the page as the three last posted messages. In addition, the number of members (1143) of the community platform was depicted on the left side of the page, which was added to reinforce the fact that an online audience was present, and again to enhance realism. For similar reasons, participants were asked to login on the website with login details that were provided in the instructions. When clicking the link to the website, participants were first presented with a login screen, and were only directed to the main page after correctly filling in the username and password.
Figure 1. Screenshot of website stimulus material used in the experiment

Experimental Conditions

**Personality self-presentation**

In line with the approach employed by Tice (1992), Gonzales and Hancock (2008), and Walther et al. (2011), participants were asked to write a self-related text based on five questions. In answering these questions, participants were instructed to rely on their own experiences, rather than make up a story. The five questions included the subjects of pastime with friends and family, hobbies, most important thing learned during studying, and favorite activity during the last holiday. Half of the participants were asked to portray themselves as extraverted, while the other half were asked to portray themselves as introverted. Across all conditions, participants were presented with the definition of both extraversion and introversion to avoid that self-concept change would be induced by priming; a potential limitation Gonzales and Hancock (2008) had put forward in their study. Participants wrote
their answers to the questions directly in the message box on the website, and were instructed to ‘post’ the message as soon as they were done. Linguistic analyses were used to assess participants’ identity performance, which is further described in the result section below.

*Degree of publicness (public vs. semi-public)*

To make a distinction between public and semi-public settings, three platform features were included in the website that may limit or expand one’s potential audience: hashtags, a boundary setting, and a notification option. The hashtag feature reflects the idea of content on social media being searchable, and is a feature found on blogs, Twitter, and Instagram, among others. The boundary setting entails the possibility to ‘set’ the visibility of a message to either public or friends only, which in this case translated to members of the project only. The notification option, as was communicated to participants, involved the idea that members of the community website would receive an email notification of the posted message. This was added because it would most authentically represent the possibility to replicate content across platforms within the context of the cover story. The public setting included hashtags, a public boundary setting, and a notification to members, which all enhance the visibility of one’s message, whereas the semi-public setting did not include hashtags, a ‘members only’ boundary setting, and no notification to members.

*Public customization (yes vs. no)*

Participants in the no-customization condition were either presented with the information that their message would be public or semi-public. For these participants, the above mentioned features were already set at default and thereby not customizable, reflected in the feature buttons being colored in a light grey. The participants who were able to customize the publicness of their message \( (n = 121) \), on the other hand, were presented with the information that they could choose whether they wanted to use the features to enhance, or reduce the visibility of their message. In addition, the website interface allowed them to customize the settings to their own liking. The website interface registered what participants selected in terms of the available features. This data was used to create two extra conditions post-hoc (i.e., those who chose public versus those who chose semi-public settings).
Measures

Self-reported extraversion

Following the procedure by Gonzales and Hancock (2008) and Walther et al. (2011), participants were asked to provide a true rating of their personality directly after they posted the message on the website. The self-rating consisted of 10 bipolar items that measured intro/extraversion on an 11-point scale. Items included talkative-quiet, enthusiastic-apathetic, outgoing-shy, confident-unconfident (Tice, 1992). The 10 items formed a reliable scale, and were recoded so that higher scores reflected greater extraversion ($M = 7.65$, $SD = 1.37$, $\alpha = .86$).

Manipulation checks

To assess the effectiveness of the manipulation that induced a degree of publicness, participants were asked ‘To what extent do you consider the message you just wrote to be visible for other people’, which they could answer on a 7-point scale ranging from not at all (1) to very (7) ($M = 5.20$, $SD = 1.19$). For the customization manipulation, participants were presented with the question ‘To what extent did the website allow you to modify the visibility of your message’, which they again rated on a 7-point scale ranging from not at all (1) to very (7) ($M = 4.46$, $SD = 1.66$).

In addition, participants were asked to rate a number of statements that related to different aspects on how publicness was perceived. Items for instance included to what extent they perceived themselves publicly identifiable through their message ($M = 5.02$, $SD = 1.41$), the likelihood of other people reading their message ($M = 5.03$, $SD = 1.52$), the likelihood of researchers reading their message ($M = 6.24$, $SD = 1.03$), and the likelihood of other students reading their message ($M = 5.14$, $SD = 1.44$), all rated similarly on 7-point scales ranging from not at all (1) to very (7). To assess the relation between publicness and perceived audience size, participants were asked to what extent their message would be read by few or many people, with response options ranging from very few (1) to a lot (7) ($M = 3.92$, $SD = 1.28$).
Results

Identity Performance and Perceptions of Public
To assess whether participants complied with the assigned personality trait in their self-presentations, the produced texts were analyzed using the Linguistic Inquiry and Word Count (LIWC, version 2015) tool with the Dutch dictionary (Zijlstra, Meerveld, Middendorp, Pennebaker, & Greenen, 2004). In line with previous research on self-concept change, texts were assessed on the dictionary components of word count, emotion words (e.g., nice and ugly), social words (e.g., talk, listen, and references to other humans), inclusives (e.g., and, with, and include), exclusives (e.g., exclude, but, and without), tentatives (e.g., maybe and perhaps), causation words (e.g., because and why), and articles (e.g., a, an, and the). Introverts typically use more negations, exclusives, causation words, articles, and negative emotion words, while extraverts use more social words, inclusives and positive emotion words, and generally have a higher total word count (Pennebaker & King, 1999). To test whether those assigned to introvert conditions differed on the use of these words from those assigned to extravert conditions, a multivariate analysis of variance (MANOVA) was used. This revealed significant differences on all ten dictionary components, $F(10, 240) = 5.42$, $p < .001$, $\eta^2_p = .18$. Participants in the extravert conditions thus appear to have produced more extraverted texts (i.e., more social words, inclusives, positive emotion words, and higher total word count) while participants in the introvert conditions produced more introverted texts.

The participants who were randomly assigned to a customized publicness conditions (n = 121), were allowed to choose the degree of publicness of their message. Based on their decisions, the degree of publicness was coded and additional conditions were created. Overall, 96 of the 121 participants in the customization conditions chose a semi-public setting (79.3%) and 25 a public setting (20.7%). This tendency for individuals to select a semi-public setting rather than a public setting for their message happened regardless of whether they were asked to present themselves as introverted (46 semi-public to 13 public) or extraverted (50 semi-public to 12 public), $\chi^2 = .13$, $p = .716$.

To test whether the manipulations of degree of publicness and customization were experienced as intended, separate t-tests were performed. This revealed that
participants who posted their self-related message in the public condition ($M = 5.43$, $SD = 1.22$) perceived greater publicness that those who posted in the semi-public condition ($M = 5.08$, $SD = 1.16$), $t(249) = -2.22$, $p = .027$. This confirmed that in both conditions participants experienced a public setting, yet also that the two conditions significantly differed in perceived degree of publicness. Both the self-presentation manipulation ($t(249) = -.74$, $p = .460$) and customization manipulation ($t(249) = 1.66$, $p = .098$) did not affect the perceived degree of publicness, nor did the interaction of these factors, $F(1, 247) = 0.41$, $p = .522$. Similarly, participants who were allowed to customize the publicness of their message ($M = 5.09$, $SD = 1.20$) perceived greater ability of modification than those who were not able to customize ($M = 3.88$, $SD = 1.80$), $t(249) = -6.23$, $p < .001$. The manipulations of degree of publicness ($t(249) = .49$, $p = .626$) and self-presentation ($t(249) = -.22$, $p = .829$), as well as the interaction of these factors ($F(1, 247) = 0.47$, $p = .494$), likewise did not influence the perceived ability to modify the publicness of their message. Both experimental manipulations thus proved to be successful.

In further examining how publicness was perceived, additional t-tests were performed with items tapping specific aspects of publicness perception. This revealed that, as intended, participants perceived themselves publicly identifiable through their message equally in both public ($M = 4.99$, $SD = 1.47$) and semi-public conditions ($M = 5.04$, $SD = 1.38$), $t(249) = 0.29$, $p = .771$. Further, participants reported high likelihood of researchers reading their messages in both public ($M = 6.37$, $SD = 1.00$) and semi-public conditions ($M = 6.16$, $SD = 1.05$), $t(249) = -1.55$, $p = .123$.

However, participants in the public conditions ($M = 5.38$, $SD = 1.39$) indicated a higher likelihood of other students reading their message than those in the semi-public conditions ($M = 5.00$, $SD = 1.46$), $t(249) = -2.02$, $p = .045$. Similarly, the likelihood of other people reading their message was reported to be higher in the public conditions ($M = 5.42$, $SD = 1.38$) than in the semi-public conditions ($M = 4.82$, $SD = 1.56$), $t(249) = -3.01$, $p = .003$. The likelihood of other people not related to the project reading their message was also reported to be higher in the public conditions ($M = 3.40$, $SD = 1.90$) than in the semi-public conditions ($M = 2.52$, $SD = 1.47$), $t(249) = -4.08$, $p < .001$. Finally, participants in the public conditions ($M = 4.02$, $SD = 1.28$) did not perceive significantly more or fewer people to read their message than those in the semi-public conditions ($M = 3.87$, $SD = 1.28$), $t(249) = -0.90$, $p = .368$. Overall, these items indicated that publicness was not
necessarily related to the amount of people that would read one’s message, but rather to the likelihood of different groups of people reading one’s message.

**Changes in Self-Concept**

The proposed effects were tested with an analysis of variance (ANOVA), with the personality self-presentation, degree of publicness, and customized publicness manipulation variables as independent variables, and the measure of self-reported extraversion as the dependent variable. Levene’s test of equality of variances revealed that the assumption of homogeneity of variances was met. In addition, we conducted contrast analyses compliant with the hypothesized patterns to further understand the specific directional effects of the interaction hypotheses. For this, eight contrast weights were assigned as outlined in Table 1.

A public online setting was hypothesized to elicit a change in self-concept as a result of selective self-presentation. In other words, participants who presented themselves as extraverted were expected to rate their true personality as more extraverted than those who presented themselves as introverted in both the manipulated public and semi-public settings (H1). Second, based on the theory of public commitment, the more public the self-presentation the stronger the self-concept change was expected to be (H2). The main effect of self-presentation ($F(1, 243) = 0.17, p = .677$) was not significant. Based on estimated marginal means, participants who presented themselves as introvert ($M = 7.57, SE = .13$) rated similar on the self-reported extraversion scale as those participants that presented themselves as extravert ($M = 7.65, SE = .14$). Curiously, the main effect of publicness was marginally significant ($F(1, 243) = 3.12, p = .079$), which revealed that in the semi-public setting participants rated themselves slightly more extravert ($M = 7.78, SE = .11$) than in the public setting ($M = 7.44, SE = .16$). The interaction effect of self-presentation and degree of publicness, however, appeared to not be significant either, $F(1, 243) = 0.23, p = .634$. The estimated marginal means on self-reported extraversion were again similar for both presentation types posted in public ($M_{\text{introversion}} = 7.44, SE = .23; M_{\text{extraversion}} = 7.43, SE = .23$) and semi-public conditions ($M_{\text{introversion}} = 7.69, SE = .16; M_{\text{extraversion}} = 7.87, SE = .15$). The contrast analysis confirmed that no effect emerged, $t(243) = 0.22, p = .825$. Hence, both Hypothesis 1 and 2 were not supported.
Table 1. Contrast weights for each hypothesis test and descriptives for experimental conditions

<table>
<thead>
<tr>
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<th>Semi-Public Setting</th>
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<th>Public Setting</th>
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<tr>
<td></td>
<td>Introvert</td>
<td>Extravert</td>
<td>Introvert</td>
<td>Extravert</td>
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<tr>
<td></td>
<td>Customization</td>
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<td>Customization</td>
<td>No customization</td>
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<tr>
<td>H1: intro/extra</td>
<td>-1</td>
<td>-1</td>
<td>+1</td>
<td>+1</td>
</tr>
<tr>
<td>H2: public/semi-public x intro/extra</td>
<td>-1</td>
<td>-1</td>
<td>+1</td>
<td>+1</td>
</tr>
<tr>
<td>H3: yes/no custom x intro/extra</td>
<td>-2</td>
<td>-1</td>
<td>+2</td>
<td>+1</td>
</tr>
<tr>
<td>H4: total for H4</td>
<td>-3</td>
<td>-2</td>
<td>+3</td>
<td>+2</td>
</tr>
<tr>
<td>Mean</td>
<td>751</td>
<td>788</td>
<td>781</td>
<td>793</td>
</tr>
<tr>
<td>SD</td>
<td>135</td>
<td>141</td>
<td>132</td>
<td>132</td>
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<td>n</td>
<td>46</td>
<td>33</td>
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<td>33</td>
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To further understand the underlying mechanisms of self-concept change, the dimension of customizing the degree of publicness of one’s message was examined. The third Hypothesis inquired whether the ability to customize would result in greater self-concept changes than when customization was not an option. The ANOVA revealed a non-significant effect for the two-way interaction of selective self-presentation and customization, $F(1, 243) = 0.75$, $p = .388$. This indicated that introvert and extravert self-presentations both led to similar ratings on self-reported extraversion for those participants who were able to customize ($M_{\text{introversion}} = 7.40$, $SE = .22$; $M_{\text{extraversion}} = 7.65$, $SE = .22$) and those participants who were not able to customize ($M_{\text{introversion}} = 7.73$, $SE = .17$; $M_{\text{extraversion}} = 7.65$, $SE = .17$). The contrast analysis confirmed that no effect emerged, $t(243) = 0.63$, $p = .532$. Hypothesis 3 was therefore not supported.

The fourth Hypothesis posited that self-presentation in a public setting would lead to greater self-concept changes than self-presentation in a semi-public setting, which was expected to be more pronounced when individuals were able to actively customize their self-presentation to be public. The three-way interaction of selective self-presentation, degree of publicness and customization was non-significant, $F(2, 243) = 0.13$, $p = .883$. The contrast analysis confirmed that the hypothesized effect pattern did not emerge, $t(243) = 0.43$, $p = .670$. Accordingly, Hypothesis 4 was not supported.

**Discussion**

Can presenting yourself on social media prompt a change in self-concept? A body of promising work suggests so (e.g., Carr & Foreman, 2016; Gonzales & Hancock, 2008; Walther et al., 2011). Within the literature, the public nature of online settings has been identified as a key factor in generating self-concept changes. To further deepen and diversify our understanding on the impact of public self-expression on potential changes in self-concept within the context of social media, the current study tested whether differences between public and semi-public settings as well as opportunities of public customization could further amplify such self-effects.

Based on the reasoning that selectively revealing information about the self for other people to see elicits public commitment, an internalization process may be
activated such that individuals internally match their private self-concepts with recent behaviors (e.g., Tice, 1992). This study showed that selectively presenting the self within settings that resemble public social media platforms did not activate such internalization, and thereby did not reveal any change in self-concept. We expected individuals who presented themselves as extraverted to rate themselves as more extraverted compared to those who were asked to present themselves as introverted. We found, however, that all individuals perceived themselves to be equally extraverted, in either public or semi-public online settings. These findings differ from past research that showed that public identity expressions (i.e., extravert or introvert) on a blog, rather than in the private setting of a text document on a computer, resulted in self-concept changes (Gonzales & Hancock, 2008; Walther et al., 2011).

The possibility to customize the publicness of a self-presentation similarly did not lead to changes in self-concepts compared to those who could not customize the publicness of their self-presentation. We expected this possibility for customization to further increase the sense of potential accountability risks due to being more aware of one’s audience and social context. However, the option to adjust whether a message is completely public or less public (i.e., semi-public) did not appear to activate the internalization of expressed self-concepts. Interestingly, the majority of participants who were allowed to choose the publicness of their message actively limited this; the majority of participants selected a semi-public over a public setting. This suggests that many individuals are aware of their online privacy, and have a relatively strong need to restrict access to personal information as much as the technology allows them to (Joinson, Houghton, Vasalou, & Marder, 2011; Krasnova, Günther, Spiekermann, & Koroleva, 2009; Tufekci, 2008). Overall, our findings tentatively indicate that self-concept changes may not necessarily result from the idea that many others may read or view one’s online self-expressions within social media settings, yet reveal that individuals prefer more semi-public settings.

Contributions and Implications

The results shed new light on the concept of public commitment as a potentially defining factor in eliciting self-concept changes. The theory of public commitment essentially rests on a conceptualization of publicness that represents offline, face-to-face situations (e.g., Schlenker, Dlugolecki, & Doherty, 1994). These situations
differ from online settings, in which individuals are able to manage the searchability, scalability, persistence and replicability of their messages (boyd, 2011). Notably, face-to-face settings maximize the expectation of receiving responses from others while in online settings, especially public social media settings, this may not be the case. Walther et al. (2011) and Carr and Foreman (2016) have already demonstrated that obtaining feedback matters for the strength of self-concept change. Accordingly, the sheer size of one’s online audience may not necessarily activate internalization, but the expectation of obtaining feedback, or actually obtaining feedback, could. Indeed, in the current study the perception of publicness did not so much rest on audience size, but rather on the diversity of people that might come to view the shared content. An explanation for not finding any changes in self-concept may thus be that participants in this study did not expect to receive any feedback.

Our findings contribute to the literature on self-concept change, and self-effects on social media more broadly, by confirming that the mere act of sharing self-related content in public online settings does not necessarily evoke changes inside the self. Accordingly, the underlying mechanism of online self-effects might need re-evaluation, and focus more on feedback. In her account on the status of self-effects within current literatures, Valkenburg (2017) emphasizes that the interaction process between sender and receiver is important for our understanding of the diverse ways in which individuals may be affected by social media uses. This idea may therefore also extend to private social media settings. Instant messaging applications are often used for the sharing of more intimate and personal information, often followed by supportive feedback from recipients (Cui, 2016). Receiving such feedback, especially in case of emotion expression, has been argued to either intensify or reduce one’s emotions or feelings (e.g., Rimé, 2009). Accordingly, if feedback influences the extent to which self-effects occur, future research should not dismiss the potentiality of self-effects in private social media settings.

To further our understanding on self-effects in social media settings, it is imperative that the literature moves toward a more refined understanding of the impact of feedback. While obtaining positive and affirmative feedback has been found more common on social media (e.g., Valkenburg, Peter, & Schouten, 2006), the potential for negative feedback from others remains (e.g., Koutamanis, Vossen, & Valkenburg, 2015). This could lead to adverse effects for the self, notably among
individuals who are more sensitive to dismissive or negative feedback from others. Research may also consider how disconfirmatory feedback may affect self-concept changes (Carr & Foreman, 2016). Specifically, comments that (publicly) contradict or undermine one’s identity expression may influence the extent to which users subsequently assess their self-concept. The fact that users have become increasingly savvy in deploying social media interfaces to fulfill their needs must nevertheless be taken into account. While the current study did not find an effect for customization, social media users may actively mitigate the effects of receiving feedback by deleting comments. The linkage between selective-self-presentation and user-controlled customizations therefore merit more scholarly attention, as this may further uncover the nuances that underlie potential psychological and behavioral consequences of social media use.
References


It is less than twenty years since social media have made their way into our lives, yet we have become dependent on them as a way to connect to like-minded individuals, communicate beyond geographic constraints, access a wealth of information, and most prominently, share anything that’s on our minds. From 2003 onwards, marking the start of the Web 2.0 revolution, hundreds of social networking applications have been released and re-released for the general public (Ellison & boyd, 2013). As Friedman (2016) illustrates in his chapter titled What the Hell Happened in 2007?, it was not until 2007 that platforms such as Facebook, Twitter, LinkedIn, and YouTube truly broke into the mainstream media sphere and gained wild popularity worldwide, shortly followed by the widespread adoption of Instagram (in 2010) and Snapchat (in 2011). Together, they represent the current generation of social media platforms, along with messenger applications like Skype, WhatsApp, and WeChat. Over the years, social media have quickly become variegated environments teeming with opportunities for users to interact with others, play games, distribute web and video links, discover new content, or keep up with newsworthy events. Yet they all remain profoundly oriented towards self-expression; users are encouraged to express what’s on their mind and share “all of their moments – the highlights and everything in between” (Instagram, 2017).

The scholarly understanding of the expressive potential of online settings has moved from an impersonal perspective to one where communication and self-expressions have become hyperpersonal and hypercurated (Walther, 2007).
Considering the novel and evolving nature of social media, continued research effort is needed to grasp what makes individuals decide to share details of their everyday lives and inner truths on these platforms, and with what effect. A great deal of studies have already attended to such questions in various streams of research (e.g., Anderson, Fagan, Woodnutt, & Chamorro-Premuzic, 2012; Nguyen, Bin, & Campbell, 2012; Valkenburg & Peter, 2009; Wilson, Gosling, & Graham, 2012). To update this knowledge on self-expressive behaviors across currently popular social media platforms, this dissertation looked at both the predictors and consequences of self-related expressions (i.e., emotion and identity expressions) on Facebook, Twitter, Instagram, and WhatsApp, as well as within public and semi-public social media-like settings. The findings from the four empirical studies reported in this dissertation highlight two broader insights that provide useful directions for future research to take. More specifically, the findings underscore that both social perceptions and social contexts matter in patterns of self-expressive behaviors, and the consequences thereof.

Social Perceptions Matter
The first insight connects to the relevance of social perceptions in relation to self-expressive behaviors online. In line with developments in media effects research (e.g., DSMM, Valkenburg & Peter, 2013), this dissertation has shown that across-the-board-generalizations about users of social media and the way they use social media are not justified. First, social media users maintain ideas about normative perceptions on expressions; that is, what self-expressions would be considered appropriate to share. Generally, expressions of joy and pride on social media were found most appropriate. Expressions that involve negative emotions, such as sad, angry, disappointed, or worried expressions, were considered less appropriate yet, interestingly, not inappropriate. Such social norms on self-expression further seem to shape expressive behaviors on social media, particularly in public settings. As demonstrated in chapter three, these individual perceptions on what might or might not be socially appropriate to express appeared to matter in how frequent social media users share their emotional experiences on platforms such as Facebook, Twitter, and Instagram.

Second, the extent to which individuals are socially perceptive seems to determine emotion sharing tendencies on social media. In terms of expressing
negative emotions, impulsive individuals were found to frequently do so independent of normative perceptions. Generally, impulsivity is characterized by an inability to assess consequences (e.g., Chamberlain & Sahakian, 2007), which may extend to social consequences of certain self-expressions. The findings in chapter three also found evidence that socially anxious and narcissistic individuals were more likely to frequently express negative emotions based on the perceived appropriateness of doing so. Narcissistic individuals typically have a higher sense of entitlement and may demand social support and attention from others, whether that be in a positive or negative manner (e.g., Carpenter, 2012; Leung, 2013). This indicates that they are less perceptive of their social surroundings. Socially anxious individuals, by contrast, are commonly typified as inhibited and concerned about disapproval from others (High & Caplan, 2009). It could be, however, that they perceive social media as a safer space to express their negative emotions than they perceive face-to-face interactions. By contrast, self-monitors, specifically those with greater abilities to modify self-presentations, appeared to be least likely to frequently express negative emotions on public social media platforms. Theoretically, self-monitors are thought to be highly concerned with the social appropriateness of their behavior, and are thus more socially perceptive (Snyder, 1974).

In line with the general perception that sharing positive emotions is more appropriate, positive emotions appeared to be more frequently expressed on social media compared to negative emotions. It appears, however, that individuals that are particularly perceptive to their social surroundings (viz., self-monitors) are less likely to frequently express negative emotions on social media, while those less socially perceptive more often do so. This is particularly insightful for the understanding on the positivity bias that has been observed on social media. The idea of the positivity bias holds that individuals typically present themselves more positively online, and refrain from sharing any derogatory or other negatively valenced content (Reinecke & Trepte, 2014; Spottswood & Hancock, 2016). In other words, social media has given rise to a culture in which people primarily share ‘the good’. While the general findings in this dissertation align with such a perspective, they also indicate that not necessarily all users equally abide by such positivity bias. Especially in the social settings that social media create, differences in social perceptiveness may determine the extent of sharing positive versus negative self-
related expressions on social media.

To understand how people act online, it is thus crucial to study the dynamics of behavior as the result of interacting social perceptions and individual differences such as the ones considered in this dissertation. The individual difference perspective taken in this dissertation to understand differences in self-expressive behaviors is not new. Research has for instance focused on how the Big Five personality traits (Costa & McCrae, 1992), which include extraversion, neuroticism, conscientiousness, openness, and agreeableness, may impact social media use and the amount of self-disclosure (e.g., Amichai-Hamburger & Vinitzky, 2010; Hollenbaugh & Ferris, 2014; Utz, Tanis, & Vermeulen, 2012). What is new in this dissertation is the specific focus on individual differences in relation to social perceptions and context. Although prominent in social scientific research (e.g., Bendor & Swistak, 2001), the influence of social norms on expressive behaviors within social media spheres has hardly been studied. The findings showed however that not all individuals equally rely on norms in guiding their emotion expressions on public social media platforms, which ties in with previous insights that foregrounded some people to be under more normative control than others (Trafimow & Finlay, 1996, 2001). It may be that, while the majority of users actively engage in self-embellishment online, some may not necessarily engage in such selective self-presentations based on their limited awareness of, or concerns for, the predominant social rules in certain social contexts.

Social Contexts Matter

The second insight that the present dissertation provides relates to the differences that were found between social media platforms. Social norms seemed to differ between social media platforms. Overall, negative emotions were for instance considered more appropriate to share on Facebook and Twitter compared to Instagram. For the expression of positive emotions, Instagram and Facebook appeared to be better suited in terms of perceived appropriateness than Twitter. Relative to these platforms, WhatsApp was considered the best platform to appropriately express one's inner thoughts and feelings, both in terms of positive and negative emotional content. Previous research has argued that users often make use of different social media to accommodate certain self-presentational needs (e.g., Hughes, Rowe, Batey, & Lee, 2012; Van Dijck, 2013). The findings in this
dissertation suggest that people may also maintain several social media accounts to select a platform for which they feel a particular expression would be appropriate. Several scholars have hinted at the unique context that each platform establishes through the collective of features and cues they provide (e.g., Marwick & boyd, 2011; Van Dijck, 2013). Indeed, each social media platform appears to presume its own set of norms, and hence social context.

Self-expressions in either public or private social contexts can influence subsequent effects for the self. In chapter four, positive emotion expression was found to lead to an intensification of positive emotions, while negative emotion expression led to a fading effect for negative emotions. As predicted, negative emotions were found to fade more strongly when shared through WhatsApp compared to Facebook, Twitter, and Instagram. The intensification of positive emotions after sharing a positive emotional experience seemed to however occur equally across these social media platforms. It seems to matter, then, whether social media users express themselves in a public or private social context in terms of subsequent self-effects. Looking at the impact of public and semi-public social media-like settings, the results in chapter five did not reveal any effects of expressing oneself as extravert or introvert on subsequent extraversion self-assessments. These findings contradict previous work, which established that individuals subsequently come to see themselves more as the trait they had publicly presented online (Gonzales & Hancock, 2008; Walther et al., 2011).

The findings in this dissertation on the consequences for emotions and self-concept have theoretical implications for research on self-effects, which concerns the effects of self-expression on the sender rather than on the receiver (Valkenburg, 2017). As a relatively new field of research within the realm of online settings, its underlying mechanisms are still largely unknown. To date, the act of sharing self-related information in public settings, as opposed to private settings, seems to have guided much of this research. Specifically, previous scholars have highlighted that public environments would more likely elicit changes to the self-concept, due to the felt accountability towards an audience and the need to therefore stay consistent (e.g., Gonzales & Hancock, 2008; Tice, 1992). Contrary to this theoretical conviction, the findings in this dissertation suggest that the mere act of publicly sharing an identity expression does not necessarily elicit such self-effects. Moreover, stronger self-effects on emotions were found in private settings. An explanation
for these findings may rely on social-sharing-of-emotion theories. Specifically, this research suggests that the influence of obtaining certain types of feedback largely accounts for beneficial effects in face-to-face settings (e.g., Rimé, 2009). Receiving socio-affective feedback (e.g., attentive listening or enthusiastic responses) may intensify positive emotions or lessen negative emotions (Rimé, 2009). To further reduce negative emotions, obtaining specific advice from others (i.e., cognitive reappraising feedback) may help individuals to further deal with the negative feelings that result from negative emotional experiences (Rimé, 2009).

Against this background, it is plausible that receiving feedback, or at least the expectation of feedback, would impact users more so than the mere perceived presence of others. As Valkenburg (2017) notes, the dynamic back-and-forth between sender and receiver is important to consider in understanding how certain uses of social media may come to affect its users. This may ultimately depend on the specific social contexts of a social media platform. Private social media platforms, such as WhatsApp, facilitate one-to-one or one-to-few interactions with close others, which establish a more intimate social contexts in which receiving positive responses and advice from friends are more likely (Cui, 2016). Conversely, platforms such as Facebook, Twitter, and Instagram enable interactions with a wider spectrum of others, with feedback being limited to more superficial responses and likes. Moreover, the risk for dismissive or negative feedback might be greater on Twitter and Instagram on which one’s self-expressions are typically more visible to strangers and negative commentary seem to prevail (Lup, Trub, & Rosenthal, 2015; Thelwall, Buckley, & Paltoglou, 2011). The social context that a platform engenders as such may possibly come to shape what users express, and may additionally inform users in deciding what platform would more likely yield the type of feedback that would benefit the self.

Going Forward: Directions for Future Research
Taken together, the current dissertation may help move the literature on self-expression within social media settings forward in two ways. First, by modeling both socially-focused personality traits and social norms, this dissertation offered a novel perspective on individual users’ expressive tendencies that may help to further uncover patterns in self-disclosure and self-presentation online in future research. Second, this dissertation examined differences between several popular
social media platforms from the perspective that each presents its own unique social context. Future research may benefit from taking a similar social context approach to more effectively understand why, how, and what users share about themselves in both public and private social media settings, and the subsequent self-effects this may give rise to.

As self-expression has migrated into the social media sphere, scholars would do well to further elaborate on the changed sociality and visibility on social media that users experience (Ellison & boyd, 2013), as well as the individual perceptions of sociability and visibility that come with it. Considering the now elusive concept of, often unknown, audiences (Litt, 2012), an individual comes to rely more on his or her perceptions as to who will read a post, whether they would deem it appropriate, and what social risks or rewards could potentially take effect. The perception of rewards and risks is particularly relevant given the enduring records of one’s self-expression online. Research has established the influence of weighing the perceived social risks and rewards in decisions regarding social behaviors face-to-face (e.g., Laufer & Wolfe, 1977). This dissertation confirms that these social risks and rewards are important to consider on social media, based on the predictive values found for social norms and socially-focused personality traits (viz., need for popularity, impulsivity, social anxiety, self-monitoring, and narcissism). Future research could further examine the specific social risks, rewards, and norms associated with different social media platforms, and what factors underlie the formation of such social perceptions.

Understandings of socially motivated expressive behaviors on social media may be enhanced by integrating the individual perceptions studied in this dissertation with other individual differences. Scholars have for instance argued that decisions on self-disclosure in social media settings also partly depend on individual privacy concerns and goals for disclosure (e.g., Bazarova & Choi, 2014; Dienlin & Metzger, 2016). A comprehensive predictor model may be developed, in which perceived social concerns, social goals, social norms, and relevant socially-focused personality tendencies are accounted for. Such an integrative perspective on the antecedents of emotion expression and other types of self-expressions may further help to understand how and why individuals come to publicly reveal intimate details, post rude commentary, or even withdraw from sharing personal information online entirely.
Future research may further aim to more systematically differentiate between single and multiple platform users. The current dissertation focused on a variety of social media platforms, yet did not take into account the fact that people hold multiple social media accounts. Scholars have argued that different social media platforms cater to specific needs. Van Dijck (2013) for instance points out that Facebook serves performances of a social self, while LinkedIn caters to performances of a professional self. There is however limited research on the concurrent uses of social media platforms, which merits more systematic examination (e.g., Buccafurri, Lax, Nicolazzo, & Nocera, 2015). The use of multiple platforms raises questions on the extent to which audiences overlap across the different platforms in use, the reasons for why users decide to post something on one platform but not the other, or how often users cross-post the same message. Ultimately, having a Facebook account as well as an Instagram account may expand one’s audience and raise received social feedback to another level. This could matter in the extent to which users feel a need to present themselves consistently across platforms, and the subsequent self-effects that may occur.

Finally, research on self-effects on social media is in need of further theorization regarding the mechanisms that underlie the strength and direction of such effects. The findings in the current dissertation suggest that ‘public’ expression is not necessarily the key factor to elicit self-effects. While not tested explicitly in chapters four and five, the findings point to the possibility that the impact of feedback may be more relevant to the emergence and size of self-effects. Future research may focus on how the type of feedback received may be a source of influence on self-effects. While positive feedback is more common on social media, research has found that individuals who engage in risky online self-presentation may more likely receive negative feedback (Koutamanis, Vossen, & Valkenburg, 2015). This, in turn, may lead to negative consequences for the self, such as lower self-esteem, increased social anxiety, or emotional distress. Dismissive or disconfirming feedback on specific identity expressions that are publicly displayed for others to see may also affect how individuals may come to assess their own identity (Carr & Foreman, 2016). For the field of self-effects, it would be fruitful to take such differences in feedback types into account, and examine their impact on self-effects in both public and private social media settings.
Infinite Content, Infinitely Content

For the first time in history, individuals are enabled to create self-related content that may be distributed to a potentially global audience. As with any new form of communication technology introduced to society, social media have been partly met with resistance. The rhetoric that surrounds phenomena related to social media in popular press is marked by ‘fake news’, ‘trivial content’, ‘viral distractions’, ‘trolling’, and ‘inauthenticity’, to just name a few (e.g., The Kernal, 2015; Open Transcripts, 2014; Huffington Post, 2016; The Guardian, 2017). The collective anxiety around social media is further exacerbated by headlines that highlight the oversharing and narcissism ‘epidemics’ we find ourselves in ever since the quick rise of social media (Huffington Post, 2013, 2014; The Guardian, 2016). From the perspective of critics, the world of seemingly infinite content that social media has helped to create has given rise to a culture of obligatory, self-absorbed, mundane, and fractured expressions of self, whilst giving free rein to trolls that supply social media with a dose of hateful content (Wired, 2013, 2017). Moreover, within the circuit of self-production, people are perpetually in search of being infinitely content, which supposedly puts individuals in a compulsive loop of social sharing and social validation that consistently distracts from ‘real life’ conversation (e.g., New York Times, 2012).

While the above seems somewhat hyperbolic, it does reflect the troubling narrative that seems to have become a cultural preoccupation as outlined in popular press. The findings in the current dissertation, though tentatively, challenges this negative perspective by providing more nuances, at least when it concerns the everyday self-expressions on users’ personal social media accounts. For one, the majority of individuals perceive positive emotion expression to be more appropriate than negative emotion expression. This illustrates that the social norms that prevail online largely mirror those from offline situations. The majority of individuals also generally express themselves positively on public social media platforms such as Facebook, Twitter, and Instagram, and reserve negative self-expressions for private social media interactions (i.e., WhatsApp). The potentialities of self-expression that social media facilitate, in turn, appear to be beneficial. Specifically, social media users are able to capitalize on positive feelings as expressing positive emotions seem to intensify one’s positive emotions. Some individuals may, however, more frequently express negative emotions online for others to see, which could potentially put them at risk.
for negative feedback. However, the expression of negative emotions on social media might overall not pose problems, and may actually relieve one's negative emotions. This may be reason enough to sustain users' productive curiosity in sharing anything that's on their minds; the digital traces that social media users leave behind within the seemingly infinite stream of self-related content, whether positive or negative, ultimately just makes them feel better.
References


Summary
Samenvatting
Author contributions
Dankwoord
About the author
Social media have taken a prominent position in today’s society. We are able to connect, interact, and express ourselves in ways previously unheard of. Specifically, social media force us to rethink what we express, how, and to whom it might be available. Not only are status updates, tweets, and comments visible to a wider spectrum of people, they also persist long after they have been posted. Based on scientific literature, or just simply by looking at Facebook’s or Twitter’s activity feeds, we know that social media are filled with self-related and personal content. As several scholars have noted, we have arrived in a culture of ‘mass self-communication’; at mass scale, we can share every bit and piece about ourselves.

With the seemingly infinite possibilities for self-expression, the consequences of expressing ourselves might be different from those established in the pre-digital world. Concerns about expressive behaviors on social media and their consequences for current generations are commonly voiced in popular press. On the one hand, social media are portrayed as facilitators for disinhibited behaviors, with users sharing primarily negative or crude content. On the other hand, it has been argued that the content being shared on social media is primarily trivial and tends to be overly positive. For both cases, headlines commonly highlight the negative consequences, and call for social media users to disconnect and detox for the sake of their mental health; critics are convinced that the continuous stream of self-related content has led to people becoming more anxious and unhappy, or highly narcissistic.
A wealth of research has focused on the possible predictors and consequences of self-expressive behaviors on social media to understand whether such concerns are warranted. Accordingly, academics have voiced that it may not be justified to assume that every social media user expresses him- or herself in a similar manner, or that the mere act of posting personal content on social media will only negatively affect people. Given the quickly developing social media ecology, there is however still much knowledge to gain on what exactly drives people to express personal information across the different social media platforms that users are able to choose from, as well as the potential consequences this may bring about.

The purpose of this dissertation was to further this knowledge, and gain a more informed perspective on self-expression in contemporary digital culture. Two important shortcomings have been identified in the social media literature, which are addressed in this dissertation. First, many studies have employed broader conceptualizations of expressive behaviors on social media and its predictors, which prevents understanding of more specific behavioral patterns. Second, research has typically treated social media as a monolithic entity. As a result, the possibility that self-expressive patterns and potential effects may vary across the many social media platforms available today has been largely overlooked.

To overcome these shortcomings, this dissertation focused on the expression of emotion and identity on social media and aimed to understand what factors are predictive of, or potentially affected by, these specific self-expressive behaviors. In addition, potential differences between social media platforms were accounted for by comparing currently popular platforms (i.e., Facebook, Twitter, Instagram, and WhatsApp) as well as by looking at the attributes that characterize them (i.e., private vs. public social contexts). The first part of this dissertation focused on what urges people to frequently share emotional content on social media by examining differences in social norms and personality traits. The second part of this dissertation focused on potential consequences of sharing self-related content for the self, and contributes to an emerging line of research on self-effects for social media. Specifically, the potential effects of emotion expression on users’ emotions were examined, as well as the potential effects of selective identity expressions on how users may come to see themselves afterwards.
Predictors of Self-Expression on Social Media

Individuals have been found to typically embellish their self-presentations on social media, which is made possible by the user-initiated and user-controlled spaces that social media represent. Even though the heightened control over self-expression in online settings may lead to disinhibition – individuals ‘oversharing’ on negative or overly emotional content – many scholars have argued that positivity norms reign on social media. After all, individuals generally wish to give off a good impression to others and therefore share positive rather than negative information about themselves. To empirically address this idea of a bias towards positive portrayals of the self, the second chapter set out to examine the prevailing social norms of emotion expressions across four social media platforms. The findings reveal that expressions of joy and pride are overall considered more appropriate to express than expressions of sadness, anger, disappointment, and worry. Patterns of prevailing social norms, however, appear to differ between platforms. The expression of negative emotions is rated as most appropriate for WhatsApp, followed by Facebook, Twitter, and Instagram. For positive emotion expression, perceived appropriateness is also highest for WhatsApp, followed by Instagram, Facebook, and Twitter. Accordingly, each social media platform gives rise to its own set of prevailing normative perceptions.

To further gain insight into the role of social norms in self-expressive behaviors on public social media, chapter three looked at whether normative perceptions would predict the frequency with which users express their emotions. Social norms appear to be an influential factor in how often specific emotions are expressed in public social media settings. The influence of social norms were further examined in relation to socially-focused personality traits (i.e., need for popularity, impulsivity, social anxiety, self-monitoring, and narcissism). This uncovered that how often users express positive or negative emotions depended on different sets of individual differences. Specifically, impulsive individuals are more likely to frequently share negative emotions on social media regardless of any perceptions on the appropriateness of doing so. Narcissistic and socially anxious individuals also more frequently expressed themselves negatively on platforms such as Facebook,
Twitter, and Instagram because they perceive such negative emotion expression to be appropriate. By contrast, self-monitoring individuals, specifically those with greater abilities to modify their self-presentations to befit the social situation, are less likely to express negative emotions. Nearly all individuals considered positive emotion expression to be appropriate and reported to more frequently do so.

Consequences of Self-Expression on Social Media

The selective manner in which social media users are able to present themselves today has raised questions on the potential beneficial or adverse consequences for the self. Accordingly, a new research stream is shifting attention towards the potential effects of online self-expression on the cognitions, emotions, attitudes, and behavior of senders rather than the recipients of messages. To gain a clear perspective on the extent to which such self-effects may occur on social media, chapter four addressed whether sharing positive or negative emotions would affect the intensity of these emotions afterwards. Overall, positive emotion expressions intensified positive emotions whereas negative emotions are reduced when shared on social media. Sharing negative emotions in private social media settings such as WhatsApp further reduced the experienced negative emotions relative to sharing these in public social media settings (i.e., Facebook, Twitter, and Instagram). For positive emotion expression, users felt better independent of the social media setting in which they shared their joyous or proud feelings and experiences.

The selective self-presentation that social media users are argued to engage in has been found to lead to changes in one’s self-concept in earlier research; that is, individuals who present themselves as extraverted online subsequently come to see themselves as more extraverted. Specifically, it has been argued that the public expression of one’s identity magnifies this effect on the self, whereas private online settings would not lead to such changes. In chapter five, research on this idea of self-concept change was extended by looking at if, and if so how, public or semi-public expressions would impact the extent to which self-concept changes occur. The potential influence of being able to actively customize the publicness of messages, an important aspect of social media platforms, was also addressed. In
an experiment, participants were asked to write either an introverted or extraverted text, and share these within in a public or a semi-public setting, or a setting in which participants could choose how public their self-presentation would be (i.e., customization). The results did not support the founding principle of the idea of a self-concept change; individuals did not adjust their self-concept in agreement with the personality trait they had been asked to present.

Conclusions and Contributions

The dissertation makes two contributions to both research and the public discourse surrounding people’s self-expressive behavior on social media. First, the extent to which individuals are perceptive of their social surroundings influences patterns of self-expressive behaviors on social media. The fact that social media users generally deem the expression of positive emotions to be more appropriate than negative emotion expressions shows that people are concerned with showing others the positive side of their lives. This does not mean that all social media users equally embellish the way they present themselves.

When individuals are less apt in assessing the social consequences of their behaviors or have more difficulty with determining social rules, they more frequently share their negative emotions on public social media platforms such as Facebook, Twitter, and Instagram. More socially perceptive users, by contrast, appear to deliberately share ‘the good’ and steer clear from sharing ‘the bad or the ugly’. These findings further establish social norms as a meaningful predictor of self-expressive behaviors, which could nuance patterns of self-expressive behaviors online when integrated with other individual differences in future research.

Second, the potential consequences of self-expression depend on the selected social media platform and the private or public social context they generate. Whether individuals share their joy and pride with others, or vent about the things that makes them sad, angry, disappointed, or worried – expressing these feelings on social media generally makes people feel better. To feel even better, using private social media platforms such as WhatsApp to share emotions appears to be more advantageous, especially for the sharing of negative emotions. Expressing
the self in a private setting, therefore, may prove to be more beneficial than doing so in public social media settings. Furthermore, neither public nor semi-public social media settings elicited effects of self-concept change. Although this does not disprove the occurrence of such effects, the findings together suggest that who actually sees one’s post might in the end be more important in prompting effects than just the number of potential viewers.

Theoretically, beneficial consequences of self-expression on social media may be rooted in the social feedback that social media users either expect or obtain. Future research should further disentangle the role of social feedback for self-effects online, especially in relation to the myriad of possibilities for self-expression that social media facilitate today. The findings provided in this dissertation, specifically relating to the individual differences and platform differences that were examined, offer useful directions and may contribute to a more informed perspective on when and how such self-effects may occur in contemporary digital culture.
Sociale media hebben een prominente plek ingenomen in de huidige samenleving. We zijn in staat om in contact te komen en te communiceren met anderen, en ons uit te drukken op manieren die voorheen niet mogelijk waren. Sociale media stimuleren ons tegelijk om beter na te denken over wat we precies delen met anderen, hoe we dit doen en voor wie dat beschikbaar zal zijn. Niet alleen zijn statusupdates, tweets en reacties op berichten zichtbaar voor een groter en meer gevarieerd publiek, ze blijven ook lang zichtbaar nadat ze zijn gepost. Op basis van wetenschappelijke literatuur, of door simpelweg een blik te werpen op Facebook- of Twitterfeeds, weten we dat sociale media volstaan met persoonlijke berichten. Zoals verschillende onderzoekers hebben geconstateerd zijn we aangekomen in een cultuur van ‘massale zelfcommunicatie’; we kunnen op een enorme schaal elk detail over onszelf delen.

Met de oneindige mogelijkheden tot zelfexpressie kunnen de gevolgen daarvan anders zijn dan in de pre-digitale wereld. Zorgen over expressief gedrag op sociale media en de gevolgen daarvan voor huidige generaties worden breed in de pers uitgemeten. Aan de ene kant zouden sociale media ongeremd gedrag mogelijk maken, waarbij gebruikers voornamelijk negatieve of ongenuanceerde berichten delen. Aan de andere kant zouden de berichten op sociale media voornamelijk triviaal zijn of juist neigen naar een geïdealiseerde weergave van de werkelijkheid. In beide gevallen worden voornamelijk de negatieve gevolgen benadrukt. In de media worden gebruikers geregeld opgeroepen om volledig afstand te nemen van...
sociale media, of in ieder geval om af en toe op een socialemediadieet te gaan, omwille van de mentale gezondheid; critici zijn ervan overtuigd dat de continue stroom van zelf-gerelateerde berichten mensen onrustiger, ongelukkiger en narcistischer heeft gemaakt.

Om in kaart te krijgen of dergelijke zorgen gerechtvaardigd zijn, is al veel onderzoek gedaan naar de mogelijke voorspellers en gevolgen van zelf-expressief gedrag op sociale media. Zodoende hebben onderzoekers al opgemerkt dat het niet terecht is om aan te nemen dat elke sociaalmediagebruiker zich op een vergelijkbare manier uit, of dat het plaatsen van persoonlijke berichten op sociale media alleen tot negatieve effecten leidt. Binnen het snel veranderende sociaalmedialandschap is echter nog veel kennis te winnen over wat mensen precies aanzet tot het delen van persoonlijke informatie op de verschillende socialemediaplatformen, en de mogelijke gevolgen daarvan.

Het doel van dit proefschrift is om bij te dragen aan deze kennis, en een beter perspectief te krijgen op zelfexpressie in de hedendaagse digitale cultuur. Twee belangrijke tekortkomingen komen naar voren in de literatuur over sociale media. Ten eerste hebben veel studies gebruik gemaakt van brede conceptualisaties van expressief gedrag op sociale media en de voorspellers hiervan, wat kennis over meer specifieke gedragspatronen in de weg staat. Ten tweede worden sociale media doorgaans behandeld als een eenheid. Daardoor wordt de mogelijkheid dat patronen van zelfexpressie en potentiële effecten kunnen variëren tussen socialemediaplatformen grotendeels over het hoofd gezien.

Naar aanleiding van deze tekortkomingen richtte dit proefschrift zich specifiek op de uiting van emotie en identiteit op sociale media, en trachtte het een beter beeld te schetsen over welke factoren voorspellend zijn voor, of mogelijk beïnvloed worden door, deze specifieke zelf-expressieve gedragingen. Mogelijke verschillen tussen platformen zijn hierbij ook onderzocht door verschillende populaire media met elkaar te vergelijken (Facebook, Twitter, Instagram, en WhatsApp) als ook te kijken naar de karakteriserende eigenschappen van deze platformen (privé versus publieke sociale contexten). Het eerste deel van dit proefschrift richtte zich op wat mensen aanspoort om met regelmaat emotionele berichten op sociale media te delen door te kijken naar verschillen in sociale normen en persoonlijkheidseigenschappen. Het tweede deel van dit proefschrift richtte zich op de mogelijke gevolgen van het delen van persoonlijke berichten voor de
gebruiker zelf, en draagt bij aan een groeiende onderzoekslijn naar zelfeffecten van sociale media. In het bijzonder is er gekeken naar de potentiële gevolgen van emotie-expressie op de emoties van gebruikers onderzocht, evenals de mogelijke effecten van selectieve identiteitsuitingen op hoe gebruikers zichzelf achteraf beoordelen.

Voorspellers van Zelfexpressie op Sociale Media

Mensen verfraaien doorgaans hun zelfpresentaties op sociale media, wat mogelijk wordt gemaakt door de mate van controle die sociale media bieden. Hoewel de verhoogde controle over zelfexpressie online kan leiden tot ontremming – doorschieten in het delen van negatieve of veel te emotionele berichten – hebben onderzoekers aangegeven dat het delen van positieve gevoelens en ervaringen de norm is. Mensen willen graag een positieve indruk achterlaten, en delen daarom eerder de positieve dan de negatieve informatie over zichzelf. Om deze hang naar positieve zelfpresentatie empirisch te onderzoeken, ging het tweede hoofdstuk in op de heersende sociale normen van emotie-uitingen op de vier sociale mediaplatformen. De bevindingen laten zien dat uitingen van vreugde en trots in het algemeen geschikter worden gevonden om te delen dan uitingen van verdriet, woede, teleurstelling, en zorgen. De heersende sociale normen blijken echter te verschillen tussen platformen. Uitingen van negatieve emoties worden beoordeeld als het geschiktst voor WhatsApp, gevolgd door Facebook, Twitter, en Instagram. Voor positieve emotie-expressie blijkt WhatsApp ook de beste keuze, gevolgd door Instagram, Facebook, en Twitter. Al met al geeft elk platform aanleiding tot een eigen set heersende sociale normen.

Om verder inzicht te krijgen in de rol van sociale normen in zelf-expressief gedrag op publieke sociale media, is in hoofdstuk drie gekeken of deze normen de frequentie kunnen voorspellen waarmee gebruikers hun emoties uiten. Sociale normen blijken een invloedrijke factor te zijn in hoe vaak gebruikers specifieke emoties uiten op sociale media. De invloed van sociale normen werd daarbij ook onderzocht in relatie tot sociale persoonlijkheidseigenschappen (behoefte aan populariteit, impulsiviteit, sociale angst, zelf-monitoring, en narcisme). Dit bracht
verder aan het licht dat hoe vaak gebruikers positieve of negatieve emoties uiten afhankelijk is van (combinaties van) individuele verschillen. Impulsieve individuen blijken bijvoorbeeld vaker geneigd om negatieve emoties op sociale media te delen, ongeacht eventuele percepties over de geschiktheid om dit te doen. Narcistische en sociaal angstige individuen drukken zich ook vaker negatief uit op platforms zoals Facebook, Twitter, en Instagram, omdat zij dergelijke negatieve emotie-uitingen juist als gepast beschouwen. Daarentegen blijken zelf-monitorende personen, met name degenen die bewuster hun zelfpresentaties aanpassen aan sociale situaties, juist minder geneigd om negatieve emoties te delen via sociale media. Positieve emotie-uitingen worden door vrijwel iedereen als gepast beschouwd en worden daarmee ook het vaakst gedeeld.

Gevolgen van Zelfexpressie op Sociale Media

De selectieve manier waarop socialemediagebruikers zich kunnen presenteren roept vragen op over de mogelijke positieve of nadelige gevolgen voor die gebruikers. Een nieuw onderzoeksveld naar zelfeffecten is hierbij ontstaan met aandacht voor de potentiële effecten van online zelfexpressie op de cognitie, emoties, overtuigingen, en gedrag van de afzender, in plaats van de ontvanger van berichten. Om een duidelijker beeld te krijgen van de mate waarin zelfeffecten zich kunnen voordoen op sociale media, is in hoofdstuk vier onderzocht of het delen van positieve of negatieve emoties nadien de intensiteit van deze emoties kan beïnvloeden. Over het algemeen verhogen positieve emotie-uitingen de positieve emoties na het posten, terwijl negatieve emoties juist verminderen wanneer ze worden gedeeld op sociale media. Het delen van negatieve emoties in besloten sociale media zoals WhatsApp verminderd die ervaren negatieve emoties nog verder ten opzichte van het delen daarvan op publieke sociale media (zoals Facebook, Twitter, en Instagram). Na een positieve emotie-expressie voelen gebruikers zich altijd beter, onafhankelijk van het medium waarop zij hun vreugde, trotse gevoelens en ervaringen delen.

Uit eerdere onderzoeken naar selectieve zelfpresentatie op sociale media is gebleken dat dit tot veranderingen in het zelfbeeld kan leiden. Individuen die zichzelf
online als extravert presenteren gaan zich daarna als extravert zien. Met name het openbaar uiten van identiteit zou dit effect vergroten, terwijl privé-expressies niet tot dergelijke veranderingen zouden leiden. In hoofdstuk vijf is voortgebouwd op dit idee van zelfbeeldverandering als gevolg van zelfexpressie op sociale media, door te kijken of, en zo ja hoe, publieke en semipublieke uitingen het zelfbeeld veranderen. Hierbij werd ook onderzocht of het actief kunnen aanpassen van de openbaarheid van berichten, een belangrijke eigenschap binnen sociale media, invloed heeft op deze mogelijke zelfbeeldverandering. In een experiment werden deelnemers gevraagd om een introverte of extraverte tekst te schrijven, en deze te delen in een openbare of semi-openbare setting, of een setting waarin deelnemers zelf de zichtbaarheid van hun bericht konden aanpassen. De resultaten kunnen het idee van een verandering in het zelfbeeld door online zelfexpressie echter niet bevestigen; individuen pasten hun zelfconcept niet aan in overeenstemming met het persoonlijkheidskenmerk dat hen werd gevraagd te presenteren.

Conclusies en Implicaties

Dit proefschrift levert twee bijdragen aan zowel de wetenschappelijk literatuur als de publieke discussies rondom zelf-expressief gedrag op sociale media. Ten eerste beïnvloedt de mate waarin individuen hun sociale omgeving waarnemen de manier waarop mensen zich uittrekken op sociale media. Het feit dat gebruikers over het algemeen het delen van positieve gevoelens en ervaringen meer geschikt vinden dan negatieve, toont aan dat mensen voornamelijk de rooskleurige kanten van hun leven willen laten zien. Dit betekent echter niet dat alle gebruikers van sociale media hun berichten in soortgelijke mate verfraaien.

Wanneer individuen minder geneigd zijn om de sociale gevolgen van hun gedrag te beoordelen of meer moeite hebben met het bepalen van sociale regels, delen zij vaker hun negatieve emoties op openbare sociale mediaplatforms zoals Facebook, Twitter, en Instagram. Gebruikers met een hoger bewustzijn van sociale situaties en gevolgen lijken daarentegen voornamelijk de aangename momenten te delen, en vermijden juist het delen van negatieve of onaangename gevoelens en ervaringen. Deze bevindingen stellen sociale normen verder vast als een
zinvolle voorspeller van zelf-expressief gedrag. Het is daarmee van belang voor toekomstig onderzoek om rekening te houden met de invloed van sociale normen in combinatie met andere individuele verschillen, wat verder kan bijdragen aan een meer gebalanceerd perspectief op zelf-expressief gedrag online.

Ten tweede blijkt uit dit proefschrift dat de potentiële gevolgen van zelfexpressie afhankelijk zijn van het geselecteerde platform, en de private of publieke aspecten. Of mensen nou hun vreugde en trots delen, of dat ze hun verdriet, boosheid, teleurstelling of bezorgdheid uitdrukken – het uiten van gevoelens op sociale media zorgt ervoor dat ze zich erna beter voelen. Emoties delen via besloten socialemediaplatformen zoals WhatsApp lijkt zelfs nog gunstiger, vooral voor het delen van negatieve emoties; je emoties uiten in een privéomgeving zorgt ervoor dat je je beter voelt dan wanneer je dit bijvoorbeeld doet op Facebook, Twitter, of Instagram. Bovendien brengen openbare of semi-openbare instellingen voor sociale media geen effecten van zelfbeeldverandering teweeg. Hoewel de resultaten dergelijke effecten niet weerleggen, suggereren ze dat wie een post ziet, uiteindelijk belangrijker kan zijn in het oproepen van effecten dan alleen het publieke aspect.

Een verklaring voor de voordelige gevolgen van zelfexpressie op sociale media kan liggen in de sociale feedback die gebruikers via sociale media krijgen of verwachten. Toekomstig onderzoek zou verder de rol van sociale feedback kunnen onderzoeken binnen het ontstaan van zelfeffecten online, met name in relatie tot de vele mogelijkheden voor zelfexpressie die sociale media tegenwoordig bieden. De bevindingen in dit proefschrift, vooral met betrekking tot de individuele verschillen en platformverschillen die zijn onderzocht, bieden hiervoor bruikbare aanwijzingen en kunnen bijdragen aan een completer beeld van wanneer en hoe dergelijke zelfeffecten kunnen optreden in de hedendaagse digitale cultuur.
AUTHOR CONTRIBUTIONS

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Chapter 2
Norms of Online Expressions of Emotion:
Comparing Facebook, Twitter, Instagram, and WhatsApp

Conceptualization: all authors. Methodology: all authors. Data acquisition: SW. Data analysis: SW. Writing (original draft preparation): SW. Writing (reviews & editing): all authors. Visualization: SW.
Chapter 3
Predictors of Emotional Expressivity on Social Media:
The Role of Personality Traits and Social Norms

Conceptualization: all authors. Methodology: all authors. Data acquisition: SW. Data analysis: SW. Writing (original draft preparation): SW. Writing (reviews & editing): all authors. Visualization: SW.

Chapter 4
Emotional Outcomes of Sharing Emotions Online:
Feeling Better or Feeling Worse

Conceptualization: all authors. Methodology: all authors. Data acquisition: SW. Data analysis: SW. Writing (original draft preparation): SW. Writing (reviews & editing): all authors. Visualization: SW.

Chapter 5
Identity Expression and Self-Concept Change Online:
The Impact of Publicness and Customization

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Sophie Waterloo (July 22, 1989) started her academic career as a bachelor student of Communication Science at the University of Amsterdam. After graduating in 2012, she continued her studies in the master program New Media and Digital Culture within the Humanities department at the University of Amsterdam. Her master thesis focused on the sharing practices of eating disorder related content on Tumblr. During this time, she also worked as a research assistant at the Digital Methods Initiative (2013-2014), and further pursued a two-year research master program in Communication Science at the same university. For her second master thesis she researched the potential causes and consequences of pathological gaming among adolescents. After obtaining her master degrees in 2014 (MA, MSc cum laude), she started as a PhD candidate at the Amsterdam School of Communication Research (ASCoR), at the University of Amsterdam. Under the supervision of prof. dr. Jochen Peter, prof. dr. Patti Valkenburg, and dr. Susanne Baumgartner, she conducted the research described in this dissertation. During her 3-year PhD project she attended the Communication Arts department at the University of Wisconsin-Madison as a visiting scholar in 2016. She currently works as a researcher at Stichting KijkOnderzoek, the Dutch television and online video audience measurement service.
Infinite Content, Infinitely Content
Self-Expression in Contemporary Digital Culture
Sophie F. Waterloo

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