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The Social Network Service's Relationship with
Authenticity“

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Introduction

Spontaneous Online Networks (SOSN) are a new type of Social Network Service (SNS) that provoke users to post unfiltered content, instead of allowing them to edit the posts (Bulchand-Gidumal, 2023). The French social media app BeReal is an influential example of a SOSN, whose marketing strategy has put a lot of emphasis on being more authentic than its competition (Brown & James, 2022). BeReal users can post once a day after a randomly timed notification has been sent out, whereas they cannot see the content from others without posting first or edit their posts in any way (Cheong, 2022; Ellison, 2022). A BeReal post consists of two photos: one taken with a smartphone's front and another one with a back camera. Since the concept of SOSN and BeReal itself are quite new, their media effects have not yet been studied in a vast scope. What is more, due to rapid technological advances and the emergence of new forms of SNSs, social scientists are facing multiple challenges in the field of research. Firstly, it is difficult to uniformly define all research features since many definitions can become outdated within a few years and new concepts keep emerging (Zhang & Leung, 2014; Carr & Hayes, 2015; Carr, 2020). The perception of how, when, and where SNSs can be used is changing (Carr & Hayes, 2015), and the social media effects cannot always be compared to effects deriving from traditional media (Kapoor et al., 2017). It is important to understand that technology itself is not changing the world as we speak, but it is shaping the development of society in compliance with cultural norms and behavioral practices (Ahn, 2011). Thus, there are no solid theory-based approaches to investigate media effects on SNSs making it necessary to test causal relationships and develop new types of research design (Zhang & Leung, 2014). While BeReal is a newcomer and its features differ from more well-known SNSs like Instagram, Facebook, or TikTok, there is an evident research gap in studying the app. More precisely while the app aims to provoke authenticity it raises the question:

does BeReal have an effect on people's authenticity? In addition, authenticity in using the app itself and its effects should be assessed to see if the behaviors specific to an SNS influence people's authenticity in general. Although, an important detail to consider is that a person's authenticity is a highly subjective matter that is most assessed with self-reports (Rivera et al., 2019). Subjectivity is also expressed in the differences between evaluating personal authenticity and the perceived authenticity of someone else (Pronin, 2008). Showcasing that people rate their authenticity through internal intentions, and for others through the way they behave. Although by assessing one's authenticity that is closely aligned with one's well-being, one must consider the possible positivity bias (Reinecke & Trepte, 2014). Indicating that a higher online authenticity is more common in people with high overall well-being. Therefore, the effects between behaving and feeling authentic on an SNS, and overall authenticity should be assessed with caution through the prism of a positivity bias. Thus, it can be asked: how do overall authenticity and authenticity on BeReal influence each other? Are there any connections between authenticity and the perceived authenticity of others on BeReal?

While authenticity is an important subject in psychology and media effects research, there are various scales to rate its features of it in an explanatory way. A notable example is the scale created by Wood and colleagues (2008) which delves into three aspects of authenticity: self-alienation, authentic living, and accepting external influence. All contribute to giving an overview of how authentic a person perceives oneself. Whereas measures to assess a person's overall authenticity have been developed, uniform scales for evaluating authenticity on different SNSs are not widely used.

This study uses the scale from Wood and others (2008) to test the causal relationship between using BeReal and one's authenticity. Moreover, it adapts the scale to measure authenticity on an SNS created by Kreling and colleagues (2022) for Instagram

and adjusts the features to BeReal to assess if authentic online behavior has a connection to overall authenticity. To test the causal relationships regression models are fitted that assess the answers given by people who took part in an online questionnaire. The sample consists of both BeReal users and non-users to compare the differences and delve into deeper aspects of authenticity on the SNS. This research aims to answer if an SNS has an influence on authenticity and how are overall authenticity and authenticity on an SNS connected.

BeReal App

BeReal is a social media app developed in 2020 in France (Cheong, 2022). It gained popularity worldwide in 2022 while stating to be an unfiltered authentic alternative to Instagram and TikTok, where pictures and videos are frequently edited and well-curated (Brown & James, 2022). This statement found some confirmation from the study by Schötteler and Horneber (2023) who found out that the content posted on BeReal is perceived as more authentic than content on Instagram. While comparisons with other social media have yet to be conducted. The BeReal app does not allow users to edit or add filters to their posts, it thus can be defined as a spontaneous online social network (SOSN) (Bulchand-Gidumal, 2023). SOSNs differ from (traditional) online social networks (OSN) because the published content is not prepared, and the affordances of these apps aim for the content to be as real as possible. BeReal sends out only one notification daily, allowing users to post photos concurrently using their front and back cameras (Cheong, 2022; Ellison, 2022). The notification is timed randomly and sets the users a two-minute timeframe to 'BeReal'. When the users cannot post within the timeframe, they have a chance to post a late photo, also notifying the other users of that (Bulchand-Gidumal, 2023). It is not possible to see the pictures from others before posting yourself, thus the app expects active social media use (ASMU) instead of passive social media use (PSMU) (Verduyn et al., 2020; Valkenburg et al., 2022). ASMU means that the users post content, add comments, and/or exchange messages. PSMU on the other hand is defined as simply monitoring the actions of others, but not participating in any way (commenting, posting, chatting). While users can retake a photo before posting on BeReal, the count of retakes is also displayed for other users to see. After posting, there is a chance to delete and repost only once. Depending on the region, the notifications can come to users at different times, since there are three time zones users can choose from:

Asia, Europe, and America. In addition, there is a chance to post a global BeReal visible to all users, but by default, the app allows one's posts only to be seen by reciprocal friends. One's post is visible to others before the app sends a new notification, after the notification has been sent, there is no possibility of seeing someone's old post. It should be noted that BeReal is mostly popular with the younger audience, especially Generation Z (Cheong, 2022). Given a lot of functions that are not common on OSNs, BeReal also has a lot of similarities with them. For example, similar to Snapchat, after taking a screenshot of someone's post, the users get notified (Xu et al., 2016). Therefore, how the posted content can be shared is limited within the functions of the app. Similarly, to Twitter, the count of characters in a caption is limited, while tweets can be up to 280 characters (Gligorić et al., 2018), BeReal captions are limited to 80. In parallel to Facebook and Instagram users can comment on the posts of others and react to them with so-called 'RealMojis'. But on BeReal the reactions are photographed by the users with their phone's front camera, being either live reactions taken at the moment or pre-saved reactions that are displayed together with emojis. In the Spring of 2023, BeReal introduced two new features: the possibility to post two bonus BeReals when the user manages to post within the initial two-minute timeframe, and connecting BeReal to one's Spotify or Apple Music account to display the music the user is listening to, at the time the post is taken. Thus, it is possible to post more than once a day. The number of friends on BeReal is displayed only to the user themselves, while the app differentiates the number to 50 and from that on only shows '50+' friends. Users can view mutual friends with other users but not their overall friend list.

Given the app's novelty, there is not much substantial research on its media effects. For example, Schötteler and Horneber (2023) delved into the authenticity of the content in addition to self-esteem, and social envy by comparing Instagram and BeReal.

But alas the research gap on the connections between BeReal usage and authenticity remains.

Effects of Social Media

Media Effects Theories

To fully grasp the potential effects social media have, one must first understand the underlying media effect theories and affordances of social media. The field of research originates from the beginning of the 20th century when social scientists researched the effects movies had on their viewers (Sparks, 2016). With time the scholarship moved on to study similar effects of radio, newspapers, and television. Looking into modern-day media effects, the research focus has largely shifted to SNS. There are many possibilities for conceptualizing media effects, the most evident example being the impact of media on people's attitudes, beliefs, emotions, and behavior (Valkenburg et al., 2016). The effects can be studied on the micro-, meso- and meta-level. This paper focuses on the micro-level, which is the effects of media on an individual user. It is important to highlight that most research done on media effects has not found that the effects are of great magnitude, on the contrary, the effects have been small to moderate (Valkenburg & Peter, 2013a). Thus, researchers are not expecting to find that media has an immense influence on the user and are in turn expecting smaller effects. Which has made them more self-reflective and critical.

There have been various theories since the 1940s assessing the micro-level media effects, some of which are applied to this day. Evident examples are the Agenda Setting Theory (McCombs & Shaw 1972), Uses and Gratifications Theory (Katz et al., 1974), Social Cognitive Theory of Mass Communication (Bandura, 2001), and Differential Susceptibility to Media Effects Model (DSMM) (Valkenburg & Peter, 2013b). Although these theories have been the baseline for many research papers, scholars note that with the rapid technological development and the change in the media consumption of younger generations, media theories need to be adjusted accordingly (Perloff, 2014; Zhang &

Leung, 2014; Valkenburg & Oliver, 2019). The first issue lies within definitions: since social media differs largely from traditional media and is an ever-changing field, scholars have found it difficult to uniformly define the medium (Zhang & Leung, 2014; Carr & Hayes, 2015). Even the abbreviation ‘SNS’ could imply both: Social Network Site and Social Network Service (Zhang & Leung, 2014). Whereas the former is an older term developed before the rise of smartphones, but these definitions are used reciprocally. Plenty of research papers looking into the effects of social media have focused on using the term Computer-Mediated Communication (CMC), which is defined as the type of human-to-human communication through the usage of computers (Carr, 2020). While online communication was originally available on computers, most of the use has now shifted towards new mediums/devices. Thus, Carr suggests that one should not focus on the mere definition of the scholarship using the word ‘computer’ but on the meaning behind it: to study the process of mediation of human-to-human communication and its effects. This leads to the second issue, as stated before the use of social media has moved further from only computers and even smartphones. It can be used on one’s tablet, smartwatch, computer, and even vehicle (Carr & Hayes, 2015). Thus, the line between having an online and an offline location has started to become obscure. The difference is also fading within defining the terms ‘communication’ and ‘interaction’ due to the fact that SNSs allow mass-personal communication (when people use mass communication channels for interpersonal communication and vice versa).

Thirdly, social scientists need to grasp the difference between the effects that come directly from social media channels, and which come from the communication in them (Kapoor et al., 2017). The fact that mediums themselves are part of the communicated messages must be considered. Carr and Hayes (2015) highlighted that social media is special in a way since the continual motivation to use it comes mostly

from interaction with other users. Thus, the effects on users are also created by other users. Scholars have suggested new theories that take into account the special characteristics of social media. For example, the Ploymedia Theory proposes that people use a range of mediums to communicate and highlights the importance of social and technological connections in communication (Madianou & Miller, 2012). Although with these theories, there is a risk of assuming technological determinism and thus it is crucial to understand that not technology itself but the tools it offers per cultural norms and behavioral practices influence the use of social media (Ahn, 2011). Therefore, SNS research should consider firstly what technology offers and secondly how it works in conjunction with a variety of social factors. Yet a strong empirical theory-based approach to assess SNSs has not been developed (Zhang & Leung, 2014). Therefore, scholars suggest that there is a need to test the causal relationships between the affordances of SNSs and their proposed effects.

Effects on One's Well-being

A substantial direction in SNS effects research has been directed towards influencing people's well-being. For example, Brooks (2015) looked into the connection between SNS use and technostress (when a person finds it hard to adapt to new technologies, resulting in traditional symptoms of stress). As it turned out there was a positive connection between them: social media use can cause technostress that can in turn influence people's levels of happiness. In addition, social media usage itself (without technostress) can affect one's happiness and also task performance, due to the interruptions to one's life it causes daily. Utz and Breuer (2017) investigated the relationship between SNS usage, well-being, and online social support. They concluded that cross-sectional research indeed shows a connection between gaining social support on SNSs and improving one's well-being, but longitudinal studies show that instead, this

connection does not exist. On the contrary, people feeling more stressed and with lower life satisfaction are more prone to seek social support on SNS. Therefore, it should be taken into account that research on one's well-being can have different results depending on the type of research.

While looking into the research on SNSs, digital technology, and well-being it catches the eye that a vast amount of research has been directed toward adolescents. Mainly because during the time between puberty and adulthood, a person's self-esteem and life satisfaction are ranked on the lowest levels (Dienlin & Johannes, 2020). Hence adolescents can be greatly influenced by their surroundings, especially social media. Nevertheless, the research has shown contradictory results, while there have been studies with significant results, many researchers have found insignificant or too small effects, to be considered notable (Dienlin & Johannes, 2020; Meier & Reinecke, 2020). Although it can be concluded that if digital technology has an effect (positive or negative) on adolescents' well-being, it is most likely a short-time effect and can originate from either the time spent using technology or the exact ways of using it.

SNS research about well-being also looks into the aspects of one's mental health. For example, using social media for extended periods and the frequency of checking it has been associated with symptoms of depression (Yoon et al., 2019; Cunningham et al., 2021). However, the main issue lies within the problematic use of social media. The former is defined by addictive symptoms (such as having mood swings, withdrawal, relapse, and salience) in combination with a high frequency of SNS use (Bányai et al., 2017). In addition, social comparison to other users on SNSs can also lead to symptoms of depression (Yoon et al., 2019). Other studies have proven that excessive or addictive social media use can have a negative effect on relationships, by reducing relationship satisfaction and causing conflicts as well as lowering one's self-esteem (Andreassen et

al., 2017; Bouffard et al., 2021). In recent years the COVID-19 crisis has also left a print on people's mental health and affected their relationships (Cohen et al., 2021; Cooper et al., 2021). In a study conducted in Germany by Brailovskaia and Margraf (2021), it turned out that the pandemic caused people to experience a burden which in turn resulted in addictive social media use. As stated before, it can cause symptoms of depression, but it is important to highlight that spending a lot of time on social media does not cause depression per se, it must reach the levels of addiction.

On the other hand, social media can also have a positive effect on one's mental health, while it helps with aspects of socializing (e.g., bonding social capital, social belongingness, emotional support, and trust) (Ostic et al., 2021). In addition, chatting with friends on SNSs can also improve the quality of friendships (Wang et al., 2014). While SNSs that provide richer communication methods (e.g., instant feedback and variance of cues instead of just exchanging text messages) do not only positively affect one's relationships but also their life satisfaction (Goodman-Deane et al., 2016). Thus, SNSs can have a positive impact on relationships and interactions. But it should be mentioned that the results of SNS research on one's well-being can have contradictory results in comparison to Western cultures (e.g., USA) and Eastern cultures (e.g., China) (Wang et al., 2014). Furthermore, Cheng and colleagues (2021) pointed out that social media addiction can vary from country and region. The authors concluded that social media addiction is higher in countries with a collectivist culture rather than an individualist one. In the latter people experience less external and internal pressure or face cultural norms that could make them more at risk of social media addiction. Although international and cultural research can have varying results, depending on research methods, design, sampling, and validity. Thus, cultural differences should always be considered while conducting SNS research.

Although people can reach millions of others online, it does not necessarily mean that SNSs enable people to have more extensive social networks online than offline (Gonçalves et al., 2011; Dunbar, 2016). Implying that the number of relational ties people can form are the same online and offline. Social network layers rank according to Dunbar (1993; 2014) as follows: 5, 15, 50, 150, 500, and 1500 people. Indicating that the fewer people are in one layer, an individual has closer and more intimate social ties with them. That being so, earlier research shows that the larger the friend network is on SNS people are more likely to disclose information about themselves, but going more into detail it turns out that self-disclosure intimacy on social media depends on the particular SNS and privacy boundaries set there (Choi & Bazarova, 2015). Nemec Zlatolas and colleagues (2015) stated that it more specifically depends on the privacy value and privacy concerns of users, which in turn depend on privacy awareness, social norms, control features, and specific policies of the SNSs. Thus, the connection between social network size and self-disclosure is more complex.

Regarding media effects on one's well-being, mental health, and life satisfaction a distinct direction of research combining these concepts has been related to one's authenticity. Whereas authors have concluded that being more authentic on social media can result in positive effects on one's well-being (Grieve & Watkinson, 2016) Although there is a chance of having a positivity bias in that regard (Reinecke & Trepte, 2014).

Media Effects Research on Authenticity

Various authors have defined authenticity through different levels of psychology, Kernis and Goldman (2006) explained that authenticity is how a person's true- or core-self operates in one's daily life without being restricted. The scholars noted that it could be divided into four components: one's awareness, behavior, unbiased processing, and relational orientation. The latter is defined as striving for genuineness and truthfulness in

close relationships. The authors also stated that these four components are separable from each other but highlighted awareness as a key component to authenticity. Wood and others (2008) assessed the phenomenon through person-centered psychology and stated that there are three dimensions of one's authenticity: self-alienation, authentic living, and accepting external influence. These aspects work in turn through three degrees: *'a person's primary experience, their symbolized awareness, and their outward behavior and communication'* (Barrett-Lennard, 1998, p. 82). Thus, it can be concluded that authenticity is defined by how a person presents themselves while staying true to themselves and being aware of their beliefs, feelings, and emotions. But at the same time considering their prior experiences, relationships with others, and external expectations. Many scholars have connected authenticity to one's well-being and self-esteem (Cross et al., 2003; Wood et al., 2008; Reinecke & Trepte, 2014; Rivera et al., 2019), indicating that more authenticity could lead to better well-being or higher self-esteem. Here it is important to distinguish that authenticity is something that is perceived or felt and is mostly measured with self-reports (Rivera et al., 2019). Thus, authenticity is a subjective perception that can be influenced by many internal and external aspects. These can range from one's mood (Lenton et al., 2013) and personality traits to social norms (Fleeson & Wilt, 2010), cultural background, and relationships with others (Cross et al., 2003). Therefore, ranking authenticity regarding self-esteem and well-being is influenced by personal and interpersonal factors. It should also be mentioned that people think they are acting more authentically when their behavior is discerned as more positive (Jongman-Sereno & Leary, 2016). Suggesting that positive behaviors (e.g., donating to a charity, entering a burning house to look for children) are perceived as more authentic than negative behaviors (e.g., taking work supplies home for personal use, trying an illegal drug). While people can disclose information about their authenticity, researchers have

delved into studying the perceived authenticity of others (Williams & Copes, 2005; De Bruyckere & Kirschner, 2016). Therefore, it is important to differentiate how people are conscious of their authenticity versus how authentic they believe others to be. What is more, Pronin (2008) discussed that people often see themselves through their positive internal intentions and others through their outward behavior. Thus, it creates a gap between analyzing yourself in comparison to others. Which could, in some cases, also lead to conflict. Therefore, self-perception and the perception of others cannot always be compared.

In connection to media effects, authenticity has been studied on various SNSs, whether it be for celebrities, businesses, and brands, or ‘regular’ users (Reinecke & Trepte, 2014; Kowalczyk & Pounders, 2016; Cunningham & Craig, 2017). For example, Grieve and Watkinson (2016) investigated how individual users express their true selves on Facebook. As it turned out, when one’s true self is accepted by other users, it leads them to feel more socially connected and less stressed. Although people who have lower self-esteem are not as likely to present themselves authentically and thus feel even more stressed. Similar findings were presented by Luo and Hancock (2020), who investigated the relationship between self-disclosure on social media and one’s well-being. They concluded that more distressed people are less authentic on social media, which may lead to even more negative well-being. However, anonymity and negative self-disclosure (e.g., posting issues and worries on anonymous Reddit forums) online could instead benefit a person’s well-being. Reinecke and Trepte (2014) formulated the emergence of positivity bias while studying authenticity on SNSs. The authors concluded: people who rank higher on overall well-being tend to be more authentic online. Thus, it cannot be unambiguously concluded that authenticity online itself leads to feeling better about oneself. Although there are specific affordances to SNSs that promote authentic online behavior,

showcasing that social media could push its users to be more authentic. For example, Kreling and others (2022) noted that posting Instagram stories and posts contributes to its users feeling rather authentic, which could, in turn, have positive effects on their mental health. Whereas authors have developed frameworks and scales to study the authenticity of social media influencers (Lee & Eastin, 2021; Maares et al., 2021; Balaban & Szambolics, 2022), a specific framework to study a ‘regular’ user’s authenticity on SNS has not been developed. Kreling and others (2022) partially tackled the issue by focusing on Instagram and testing a combined scale from different studies. They included aspects of being spontaneous similar to the studies focusing on influencer authenticity but also investigated the aspects of privacy and expecting people to respond to social media postings as a potential contribution to one’s authenticity. They concluded that on Instagram spontaneity and privacy control predict authenticity. Considering that, it still should be stressed that SNSs differ from each other due to their affordances (Bucher & Helmond, 2018), but also how users view their audience and content posted there (Zhao et al., 2016). Thus, an overarching framework can be difficult to develop. Therefore, the research regarding one’s authenticity on SNS should look into the technological factors offered specifically on the app and whether they have any relationship to making people feel or act more authentically. Thus, the causal effects of SNS use and its affordances should be examined in relation to authenticity.

Research Design and Methodology

Research Questions

Considering BeReal's affordances and claimed aims in connection to existing media effects research on well-being, more specifically on authenticity, two research questions were formulated. The first one tackles if BeReal influences authenticity while comparing users to non-users.

RQ1: How does using BeReal influence people's overall authenticity?

The second question aims to seek if there is a connection between the users' perceived authenticity of themselves and their friends on the BeReal app to their overall authenticity, also checking for a positivity bias.

RQ2: Checking for a positivity bias: how do authenticity on BeReal and people's overall authenticity influence each other?

- a) How does personal perceived authenticity on BeReal influence one's overall authenticity and vice versa?
- b) How does the perceived authenticity of friends on BeReal influence one's overall authenticity and vice versa?

Participants

To answer the research questions an online survey was created, see Appendix. The respondents were drafted using convenience sampling (posting the survey link on Facebook, Instagram, and Reddit subgroups, printing out the QR code, hanging it on the walls of the University of Vienna, sent to friends and family members asking to share the link). A total of N=352 valid responses were collected. With 154 of the respondents being BeReal users and 198 being non-users. The average age of the respondents was

25.4 (SD = 7.65) years, while it should be mentioned that for BeReal users the average age was 23.2 (SD = 3.05) and for non-users 27.1 (SD = 9.51) years. While most of the respondents were Estonians, the nationalities were re-coded as 'Estonians' (n=296) and 'Other Nationalities' (n=56) to make a smaller number of groups to simplify the analysis. For specifically BeReal users the nationality groups were with the count of 127 Estonians and 27 participants from other nationalities. The other countries in the list were European countries, with the aim of having a more homogenous sample with respondents from a culturally similar background. To ensure that possible cultural differences (Wang et al., 2014) would not interfere with the results. 225 of the participants identified as female, 125 as male, one as 'other' and one participant did not want to disclose their gender information. Ladder two was re-coded as a new variable 'Other' in addition to the pre-existing 'Female' and 'Male'. Therefore, the 'Other' category must be assessed with attention, due to its small size. But on the other hand, it would work against the principles of gender inclusion to leave it completely out of the analysis. For BeReal users, there were 123 women, 30 men, and one participant belonging to the 'Other' gender category. The educational levels were also re-coded into 'University Education' (including Bachelor's, Master's, and Ph.D. degree) (n=206, and for BeReal users n=95) and 'Other Education' (no degree, middle school, high school, or trade/vocational/technical training) (n=146, for BeReal users n=59). Employment was re-coded into three variables: 'Employed' (including employed and self-employed) (n=148, for BeReal users n=63), 'Student' (student, working student) (n=184; for BeReal users n=83), and 'Other' (not employed, looking for work; not employed, not looking for work; military; retired; and unable to work) (n=20, for BeReal users n=8).

Measures

The measures were developed using previous studies on authenticity and SNSs. The 12-item authenticity scale from Wood and others (2008) was used to assess the general authenticity of participants. While the authors divided the scale into three subgroups (Authentic Living, Self-Alienation, and Accepting External influence) of four questions, for this study they were combined into a single item called ‘authenticity’, similar to the study by Blomgren & Strååht (2019). Where the scales for Self-Alienation and Accepting External Influence were flipped, and the rating was summed to form the new variable. In this research, the variables showed satisfactory internal consistency with Cronbach’s Alpha of $\alpha = .66$ for Self-Alienation, $\alpha = .63$ for Accepting External Influence, and $\alpha = .6$ for Authentic Living. For each item (e.g., ‘*I think it is better to be yourself than to be popular*’, ‘*I am true to myself in most situations*’, and ‘*I feel as if I don’t know myself very well*’, all 12 visible in Appendix) the participants had to rate to what extent they agree with the statements on a 7-point scale (1 = very much disagree, 7 = very much agree).

Then the participants who used BeReal were filtered out by the question ‘*Are you currently an active user of the BeReal app?*’, dividing the sample into users and non-users. BeReal users had to assess their usage of the app regarding the frequency of use, time spent on the app, friend count, and privacy settings. The frequency was measured on a 7-point scale (derived from Rouis et al., 2011, Vogel et al., 2014 and Weiser, 2015, adjusted to BeReal) with the question: ‘*How often do you post on BeReal?*’ (every day, 4-6 days a week, 2-3 days a week, once a week, 2-3 days a month, once a month, or more infrequently than the previous statements). They were re-coded into: ‘Daily user’ (n=81) and ‘Less Frequent User’ (n=73). Since BeReal expects ASMU and can be fully utilized only while posting, the usage is measured with the frequency of posting. Time spent on

the app was assessed with the question '*How much time do you spend on BeReal on a typical day?*' (derived from Turner & Lefevre, 2017), with the options of less than 5 minutes, 5-15 minutes, 16-30 minutes, 31-60 minutes, and more than 60 minutes. Here it is important to note that less than 5 minutes was added as a new item compared to the other authors since a survey conducted in 2022 showed a noticeable number of users using the app for a shorter amount of time (Ceci, 2023) than presented in previous SNS studies. The variable was then divided into two by using the app 'Up to 5 minutes' (n=75) and 'More than 5 Minutes' (n=79). Each participant manually inserted a friend count, with the extra notion of BeReal only displaying friends up to 50, so the participants with over 50 friends were instructed to write '50+' as their friend count. Whereas one participant wrote '10-15', which was taken into account as '12' and another one wrote 'ca 35' which was accounted as '35'. Friend count was grouped as follows: '1-25' (n=56), '26-50' (n=48), and '50+' (n=50). A participant also marked the number as '20+', which was counted into the category of '1-25'. Privacy settings were a binary option: friends only or global account. As it turned out, none of the participants had a global account, therefore it was left out of the analysis.

BeReal users were asked to assess the behavior of themselves and their friends while using the app. Since there is not a specific authenticity scale for assessing the use and behavior of SNSs Kreling and others' (2022) study was taken as an example for developing the scales for both personal authenticity and friends' authenticity. It should be noted that they also included the Authenticity Scale from Wood and colleagues in their study. The participants had to assess their agreements to a list of statements on a 7-point scale (1 = very much disagree, 7 = very much agree). Unlike Kreling and others, who used a 5-point scale, a 7-point scale was used, since it has proven to be more useful, by giving the respondents a wider variety of options and a smaller chance of answer

polarization (Finstad, 2010). Also, a pre-test (n=7) was run and the scale for authenticity on BeReal was initially 5-point, but the feedback stated that would be better to have a uniform scale within all of the questions.

After collecting the data two separate factor analyses were run, the first regarding the statements about personal authenticity and the other about friends' authenticity. While checking for correlation of the items and performing the Kaiser–Meyer–Olkin (KMO) test (MSA overall score for personal authenticity was .66 and for friends' .63) and Bartlett's test of sphericity (for both scales $p < .05$), both presented adequate data for factor analysis. The latter showed that for both personal and friends' authenticity on BeReal, the statements can be divided into two factors. The PAF method was used to investigate the structure of the variables (Reio & Shuck, 2014).

The first factor for personal authenticity, visible from Table 1, consists of statements regarding feelings of authenticity and spontaneity (*'I feel authentic in the way I present myself in my BeReal posts'*, *'I feel like my BeReal posts show what my life is really like'*, *'I create my posts very spontaneously at the moment'*, *'I feel like BeReal makes me act more authentically in my life in general'*). The second factor includes two statements about expecting to receive reactions and comments, which Kreling and others derived from French and Bazarova's study (2017) (*'After posting I usually expect to receive a lot of reactions/comments to my BeReal posts'*). These statements were expected to predict authenticity negatively. And in addition, two statements about posing for the posts (alternative to what editing the posts on Instagram would be) and following the two-minute timeframe to post on time (*'I always try to post on time on BeReal'*, *'I spend time posing and setting the scene for my BeReal posts'*). All of the same statements were changed a bit to be presented for assessing one's friends, i.e., *'I feel like my friends always try to post on time on BeReal'*.

Table 1.

Factor Analysis for Personal Authenticity.

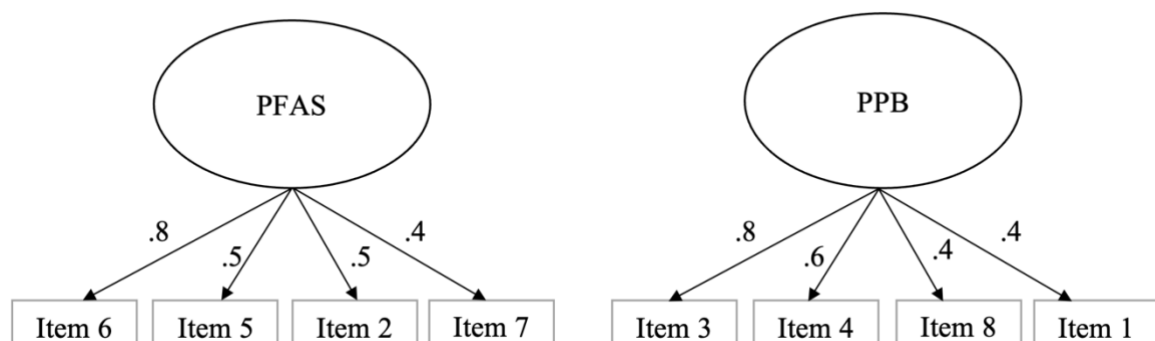
Items	Factor		Communality
	1	2	
6. I feel authentic in the way I present myself in my BeReal posts.	0.82	-0.07	0.23
5. I feel like my BeReal posts show what my life is really like.	0.53	0.03	0.24
2. I create my posts very spontaneously at the moment.	0.48	-0.09	0.58
7. I feel like BeReal makes me act more authentically in my life in general.	0.39	0.17	0.34
3. After posting I usually expect to receive a lot of reactions to my BeReal posts.	0.03	0.76	0.28
4. After posting I usually expect to receive a lot of comments on my BeReal posts.	0.00	0.58	0.68
8. I spend time posing and setting the scene for my BeReal posts.	0.31	0.37	0.18
1. I always try to post on time on BeReal.	0.33	0.35	0.23

PAF Extraction method with varimax rotation. N=154. Factor loadings over .3 are marked in bold.

The first factor consists of items showcasing perceived feelings of authenticity and spontaneity ($\alpha = .73$) and the second one perceived in-app behavior ($\alpha = .69$). Thus the factors were named accordingly: ‘Personal Feelings of Authenticity and Spontaneity’ (PFAS) and ‘Personal Perceived Behavior’ (PPB), as shown in Figure 1.

Figure 1.

Diagram of the Personal Authenticity factor analysis with factor loadings.



Nonetheless for friends, the factors differed. The first factor consists of the same three statements as part of the in-app behavior factor for personal assessment but directed

towards friends. On the other hand, the statement '*I feel like my friends always try to post on time*' belongs to factor two, as visible in Table 2. In addition, the statement '*I feel like BeReal makes my friends act more authentically in their lives in general*' did not count as part of either of the factors due to low factor loadings ($<.3$) and was thus left out of the analysis (Child, 2006).

Table 2.

Factor Analysis for Friends' Authenticity.

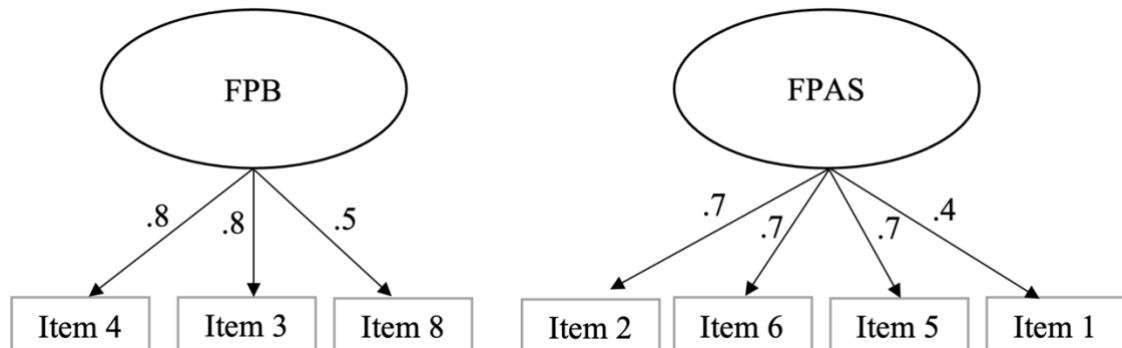
Items	Factor		Communality
	1	2	
4. I feel like my friends expect to receive a lot of comments on their BeReal posts.	0.80	0.05	0.13
3. I feel like my friends expect to receive a lot of reactions to their BeReal posts.	0.76	0.04	0.55
8. I feel like my friends spend time posing and setting the scene for their BeReal posts.	0.50	-0.22	0.58
2. I feel like my friends create their posts very spontaneously at the moment.	-0.31	0.67	0.64
6. I feel like my friends feel authentic in the way they present themselves in their BeReal posts.	-0.13	0.65	0.46
5. I feel like my friends' BeReal posts show what their lives are really like.	-0.20	0.65	0.44
1. I feel like my friends always try to post on time.	0.07	0.35	0.09
7. I feel like BeReal makes my friends act more authentically in their lives in general.	0.08	0.28	0.29

PAF Extraction method with varimax rotation. N=154. Factor loadings over .3 are marked in bold.

As visible from Figure 2, the order of the factors is also different compared to personal assessment. The first factor regards the perceived in-app behavior ($\alpha = .74$) and the second one perceived authenticity and spontaneity ($\alpha = .72$). Similarly, to personal factors they were named 'Friends' Perceived Behavior' (FPB) and 'Friends' Perceived Authenticity and Spontaneity' (FPAS). It is worth noting that the feelings of others cannot be seen, only assessed (Pronin, 2008), thus the names of personal and friend's factors also differ to a certain extent.

Figure 2.

Diagram of the Friends' Authenticity factor analysis with factor loadings.



Methodology

To answer the research questions and to detect causal effects, seven different multiple linear regression models were fitted, using the responses from the online survey. Since the research questions differ, the models have different predictor and outcome variables. RQ1 aims to seek if there is a connection between using BeReal and one's authenticity, RQ2 is focused to find out if there are effects between being authentic on the app on perceiving one's friends as authentic to overall authenticity and vice versa. In addition, moderation and mediation effects were checked, where there was an indication of either a possible indirect or a moderated effect (Valkenburg & Peter, 2013a; 2013b).

Results

To answer RQ1 a multiple linear regression model was fitted to see if the use of BeReal predicts authenticity. Social demographics (age, gender, nationality, education, employment) were used as control variables. Whereas the first model was run, and a quality check (testing for homoscedasticity and outliers) was performed, it presented 15 outliers, who were then counted out of the model and a new model was fitted with a significant $R^2 = .063$ ($p < .05$). That is visible in Table 3 while showing that age predicts authenticity with a significant positive effect of $b = .16$ ($p < .05$). The other variables showed no significant effect on predicting authenticity. Although on a 90% confidence interval use of BeReal displayed a significant effect on authenticity. A VIF multicollinearity check showed no issues, while the scores ranged from 1.09 to 1.62.

Table 3.

Multiple Linear Regression for RQ1.

Predictor	b	b 95% CI	sr ²	sr ² 95% CI	Fit
(Intercept)	53.18**	[48.82, 57.53]			
use of BeReal	1.61	[-0.29, 3.51]	.01	[-.01, .03]	
age	0.16*	[0.02, 0.30]	.01	[-.01, .04]	
gender (Male)	-1.74	[-3.63, 0.16]	.01	[-.01, .03]	
nationality (Other)	0.38	[-2.10, 2.85]	.00	[-.00, .00]	
education (University)	1.95	[-0.28, 4.18]	.01	[-.01, .03]	
employment (Other)	0.41	[-3.68, 4.50]	.00	[-.00, .00]	
employment (Student)	0.96	[-1.18, 3.10]	.00	[-.01, .01]	
					$R^2 = .063^{**}$ 95% CI[.01,.10]

Note. A significant *b*-weight indicates the semi-partial correlation is also significant *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared. Square brackets are used to enclose the lower and upper limits of a confidence interval.

* indicates $p < .05$. ** indicates $p < .01$.

After removing the outliers from this model, participants in the gender group ‘Other’ were removed, only including women in men in the analysis, while the former was the reference group. For nationality, the reference group was ‘Estonians’, for education ‘Other Education’, and for employment ‘Employed’.

For answering RQ2 only BeReal users were filtered out to fit six new multiple linear regression models. The first four models looked into how authenticity influences personal (PFAS and PPB) and friends’ authenticity (FPB and FPAS) on BeReal. The first model looked into authenticity’s influence on PFAS, while the control variables were social demographics and characteristics of using the app (friend count, frequency of use, time spent on the app), see Table 4. After the initial model fit, 10 outliers became evident and following their removal, the model was significant with an $R^2 = .269$ ($p < .05$). Authenticity did not affect PFAS, but both age and less frequent use had a significant negative effect on it, respectively $b = -0.08$ ($p < .05$) and $b = -0.61$ ($p < 0.05$). Other variables did not have a significant effect on PFAS.

Table 4.

Multiple Linear Regression RQ2 a) if authenticity predicts PFAS.

Predictor	b	b 95% CI	sr ²	sr ² 95% CI	Fit
(Intercept)	1.41	[-0.24, 3.06]			
authenticity	0.01	[-0.00, 0.02]	.01	[-.02, .04]	
age	-0.08*	[-0.13, -0.02]	.04	[-.02, .09]	
gender (Male)	-0.14	[-0.44, 0.16]	.00	[-.01, .02]	
gender (Other)	1.35	[-0.12, 2.83]	.02	[-.02, .06]	
nationality (Other)	-0.03	[-0.37, 0.31]	.00	[-.00, .00]	
education (University)	0.13	[-0.23, 0.49]	.00	[-.01, .02]	
employment (Other)	-0.08	[-0.66, 0.49]	.00	[-.01, .01]	
employment (Student)	-0.15	[-0.45, 0.15]	.01	[-.02, .03]	
friend count (26-50)	0.25	[-0.07, 0.57]	.01	[-.02, .05]	
friend count (50+)	0.21	[-0.11, 0.52]	.01	[-.02, .04]	
frequency (Less Frequent User)	-0.61**	[-0.87, -0.35]	.12	[.03, .21]	
time (Up to 5 Minutes)	-0.10	[-0.37, 0.17]	.00	[-.01, .02]	
					R ² = .269** 95% CI[.09,.33]

Note. A significant b-weight indicates the semi-partial correlation is also significant b represents unstandardized regression weights. sr² represents the semi-partial correlation squared. Square brackets are used to enclose the lower and upper limits of a confidence interval.

** indicates $p < .05$. ** indicates $p < .01$.*

The reference group for friend count was ‘1-25’ friends, for frequency ‘Daily User’ and for the time of usage ‘More than 5 Minutes’.

Investigating authenticity’s effect on PPB and after removing 9 outliers that were presented with the first fit of the model, it turned out that authenticity had a significant negative effect on PPB ($b = -0.02$, $p < .05$), see Table 5. Similarly, to PFAS, less frequent use had a significant negative effect on PPB ($b = -0.32$, $p < .05$), other variables did not affect the factor significantly. There was no significant moderation or mediation effect between the relationship of authenticity, frequency, and PPB. The model itself was significant with $R^2 = .166$ ($p < .05$).

Table 5.

Multiple Linear Regression RQ2 a) if authenticity predicts PPB.

Predictor	b	b 95% CI	sr ²	sr ² 95% CI	Fit
(Intercept)	1.09	[-0.72, 2.91]			
authenticity	-0.02*	[-0.04, -0.00]	.04	[-.02, .10]	
age	0.00	[-0.06, 0.07]	.00	[-.00, .00]	
gender (Male)	-0.00	[-0.33, 0.33]	.00	[-.00, .00]	
gender (Other)	0.56	[-1.07, 2.18]	.00	[-.01, .02]	
nationality (Other)	0.13	[-0.25, 0.50]	.00	[-.01, .02]	
education (University)	0.11	[-0.28, 0.51]	.00	[-.01, .02]	
employment (Other)	0.33	[-0.31, 0.96]	.01	[-.02, .03]	
employment (Student)	0.26	[-0.07, 0.59]	.01	[-.02, .05]	
friend count (26-50)	-0.13	[-0.48, 0.21]	.00	[-.01, .02]	
friend count (50+)	0.12	[-0.22, 0.47]	.00	[-.01, .02]	
frequency (Less Frequent User)	-0.32*	[-0.60, -0.03]	.03	[-.02, .08]	
time (Up to 5 Minutes)	-0.19	[-0.49, 0.10]	.01	[-.02, .04]	
					R ² = .166* 95% CI[.01,.21]

Note. A significant b-weight indicates the semi-partial correlation is also significant b represents unstandardized regression weights. sr² represents the semi-partial correlation squared. Square brackets are used to enclose the lower and upper limits of a confidence interval.

** indicates $p < .05$. ** indicates $p < .01$.*

Looking into authenticity's effect on FPB, the quality check displayed 9 outliers and with their removal, it became evident that authenticity had again a significant negative effect on the factor ($b = -0.02$, $p < .05$), being the only variable with a significant effect, see Table 6. Although the overall model fit turned out to be insignificant.

Table 6.

Multiple Linear Regression RQ2 b) if authenticity predicts FPB.

Predictor	b	b 95% CI	sr ²	sr ² 95% CI	Fit
(Intercept)	1.69	[-0.27, 3.66]			
authenticity	-0.02*	[-0.04, -0.00]	.04	[-.02, .10]	
age	-0.04	[-0.10, 0.03]	.01	[-.02, .03]	
gender (Male)	0.10	[-0.26, 0.46]	.00	[-.01, .02]	
gender (Other)	-1.34	[-3.10, 0.42]	.02	[-.02, .05]	
nationality (Other)	0.11	[-0.29, 0.52]	.00	[-.01, .02]	
education (University)	0.12	[-0.31, 0.55]	.00	[-.01, .02]	
employment (Other)	0.64	[-0.04, 1.33]	.02	[-.02, .07]	
employment (Student)	0.21	[-0.15, 0.56]	.01	[-.02, .04]	
friend count (26-50)	-0.01	[-0.39, 0.36]	.00	[-.00, .00]	
friend count (50+)	0.03	[-0.34, 0.41]	.00	[-.00, .00]	
frequency (Less Frequent User)	0.15	[-0.16, 0.46]	.01	[-.02, .03]	
time (Up to 5 Minutes)	0.02	[-0.31, 0.34]	.00	[-.00, .00]	
					R ² = .111 95% CI[.00,.14]

Note. A significant b-weight indicates the semi-partial correlation is also significant b represents unstandardized regression weights. sr² represents the semi-partial correlation squared. Square brackets are used to enclose the lower and upper limits of a confidence interval.

** indicates $p < .05$. ** indicates $p < .01$.*

Exploring authenticity's influence on FPAS a quality check was run that presented 9 outliers evident from inspecting the Cook's Distance. Outliers were removed to better the quality of the regression model, which turned significant $R^2 = .172$ ($p < .05$), see Table 7. Authenticity did not influence FPAS but having more than 50 friends and using the app up to 5 minutes daily both had a significant effect on the factor variable, for the former $b = -0.44$ ($p < .05$) and latter $b = -0.39$ ($p < .05$). Other variables did not have a significant effect on FPAS.

Table 7.

Multiple Linear Regression RQ2 b) if authenticity predicts FPAS.

Predictor	b	b 95% CI	sr ²	sr ² 95% CI	Fit
(Intercept)	1.68	[-0.19, 3.54]			
authenticity	-0.00	[-0.02, 0.01]	.00	[-.00, .00]	
age	-0.04	[-0.11, 0.02]	.01	[-.02, .04]	
gender (Male)	-0.22	[-0.56, 0.12]	.01	[-.02, .04]	
gender (Other)	1.61	[-0.06, 3.28]	.02	[-.02, .07]	
nationality (Other)	0.04	[-0.34, 0.43]	.00	[-.01, .01]	
education (University)	-0.10	[-0.51, 0.31]	.00	[-.01, .01]	
employment (Other)	0.02	[-0.63, 0.67]	.00	[-.00, .00]	
employment (Student)	-0.01	[-0.35, 0.33]	.00	[-.00, .00]	
friend count (26-50)	-0.10	[-0.46, 0.26]	.00	[-.01, .01]	
friend count (50+)	-0.44*	[-0.80, -0.09]	.04	[-.02, .10]	
frequency (Less Frequent User)	-0.26	[-0.55, 0.03]	.02	[-.02, .06]	
time (Up to 5 Minutes)	-0.39*	[-0.69, -0.08]	.04	[-.02, .10]	
					R ² = .172* 95% CI[.01,.22]

Note. A significant b-weight indicates the semi-partial correlation is also significant b represents unstandardized regression weights. sr² represents the semi-partial correlation squared. Square brackets are used to enclose the lower and upper limits of a confidence interval.

** indicates $p < .05$. ** indicates $p < .01$.*

Multicollinearity scores of VIF displayed no issues in the regression models (Tables 4, 5, 6, and 7) varying from 1.08 to 2.19.

Moreover, the influence of two factors regarding personal authenticity (PFAS and PPB) on overall authenticity was studied, see Table 8. After the initial model fit 6 outliers were counted out, and the new model presented goodness of fit with the value of $R^2 = .174$ ($p < .05$). As visible from the table, PPB has a significant negative effect ($b = -2.22$, $p < .05$) on one's authenticity. In addition, people who have friends between the count of 26-50 had a significant positive effect ($b = 3.67$, $p < .05$) on authenticity. Looking at the interaction term between PPB and friend count, there was no significant effect (with the group of 26-50 friends), showcasing no moderation. The other variables proved to be insignificant.

Table 8.

Multiple Linear Regression RQ2 a) if PFAS and PPB predict authenticity.

Predictor	b	b 95% CI	sr ²	sr ² 95% CI	Fit
(Intercept)	61.79**	[47.24, 76.33]			
PFAS	1.62	[-0.02, 3.26]	.02	[-.02, .07]	
PPB	-2.22**	[-3.83, -0.61]	.05	[-.02, .11]	
age	-0.29	[-0.90, 0.33]	.01	[-.02, .03]	
gender (Male)	-1.09	[-4.29, 2.10]	.00	[-.01, .02]	
gender (Other)	-1.12	[-17.03, 14.79]	.00	[-.00, .00]	
nationality (Other)	1.29	[-2.29, 4.87]	.00	[-.01, .02]	
education (University)	2.63	[-1.13, 6.40]	.01	[-.02, .04]	
employment (Other)	2.22	[-3.59, 8.04]	.00	[-.01, .02]	
employment (Student)	-0.94	[-4.06, 2.18]	.00	[-.01, .02]	
friend count (26-50)	3.67*	[0.42, 6.92]	.03	[-.02, .08]	
friend count (50+)	2.44	[-0.92, 5.81]	.01	[-.02, .05]	
frequency (Less Frequent User)	0.76	[-2.13, 3.65]	.00	[-.01, .01]	
time (Up to 5 Minutes)	1.89	[-1.01, 4.79]	.01	[-.02, .04]	
					R ² = .174* 95% CI [.01, .21]

Note. A significant b-weight indicates the semi-partial correlation is also significant b represents unstandardized regression weights. sr² represents the semi-partial correlation squared. Square brackets are used to enclose the lower and upper limits of a confidence interval.

** indicates $p < .05$. ** indicates $p < .01$.*

For evaluating friends' authenticity, the initial regression model was fitted and after examining Cook's distance plot 10 outliers were presented. By omitting them and fitting the new model the model fit was significant $R^2 = .154$ ($p < .05$), visible from Table 9. By looking at the variables a similar tendency to personal authenticity became evident: FPB had a significant negative effect on authenticity ($b = -2.03$, $p < .05$), and having friends from 26-50 had a significant positive effect ($b = 4.18$, $p < .05$) on authenticity. By looking at the interaction term between FPB and the friend count group of 26-50, it turned out to be insignificant, implying no moderation. Other variables did not have a significant effect on authenticity in the model.

Table 9.

Multiple Linear Regression RQ2 b) if FPB and FPAS predict authenticity.

Predictor	b	b 95% CI	sr ²	sr ² 95% CI	Fit
(Intercept)	63.14**	[48.37, 77.91]			
FPB	-2.10**	[-3.55, -0.65]	.05	[-.01, .12]	
FPAS	-0.08	[-1.51, 1.68]	.00	[-.00, .00]	
age	-0.40	[-1.02, 0.23]	.01	[-.02, .04]	
gender (Male)	-1.33	[-4.59, 1.92]	.00	[-.02, .02]	
gender (Other)	-2.60	[-18.36, 13.16]	.00	[-.01, .01]	
nationality (Other)	2.40	[-1.27, 6.08]	.01	[-.02, .04]	
education (University)	3.48	[-0.27, 7.23]	.02	[-.02, .07]	
employment (Other)	1.92	[-3.84, 7.68]	.00	[-.01, .02]	
employment (Student)	-0.41	[-3.56, 2.74]	.00	[-.01, .01]	
friend count (26-50)	4.18*	[0.92, 7.44]	.04	[-.02, .10]	
friend count (50+)	3.28	[-0.16, 6.72]	.02	[-.02, .07]	
frequency (Less Frequent User)	-0.11	[-2.84, 2.62]	.00	[-.00, .00]	
time (Up to 5 Minutes)	2.88	[-0.10, 5.85]	.02	[-.02, .07]	
					R ² = .154* 95% CI [.00, .19]

Note. A significant *b*-weight indicates the semi-partial correlation is also significant *b* represents unstandardized regression weights. *sr*² represents the semi-partial correlation squared. Square brackets are used to enclose the lower and upper limits of a confidence interval.

* indicates $p < .05$. ** indicates $p < .01$.

For both regression models (Tables 8 and 9) VIF multicollinearity checks showed no issues with the scores ranging from 1.04 to 2.09.

Discussion

This research gives insight into the connections between a SOSN BeReal and its micro-level media effects on authenticity. The latter is in turn connected to one's well-being, therefore this research aimed to find out how a social media app potentially influences a person's welfare. There was no clear connection between one's authenticity and using BeReal, meaning that using BeReal does not make a person more authentic or less authentic in their offline life. The latter also answers RQ1. While the effect could become both evident or stay insignificant with a larger sample since the effect was positive and significant on a smaller confidence interval (CI = 90%). But this requires further research on the topic. Thus BeReal, which emphasizes being more authentic than its competition (Brown & James, 2022), does in fact not make people feel more authentic.

Although by looking at the social demographics, age had a significant positive effect on authenticity, showing that older people are more authentic than younger people. While self-esteem is connected to authenticity (Cross et al., 2003; Wood et al., 2008; Reinecke & Trepte, 2014; Rivera et al., 2019) and it is lower for younger people (Dienlin & Johannes, 2020), there could be a potential explanation between the difference of authenticity scores for younger and older people. But since the aim of this research was to look into connections between social media use and authenticity, and age was a control variable, the connections between age and authenticity were not in focus. In addition, there could be more undetected relationships between social demographics and authenticity, since a smaller confidence interval displayed more significant effects. But this should be further assessed with a larger sample to draw definitive conclusions since the effects were not confirmed on a 95% confidence interval.

While looking at authenticity measures on BeReal a factor analysis presented two factors for both personal and friends' authenticity. PFAS for personal assessment explained to what extent BeReal users feel authentic by presenting themselves on BeReal if their posts are spontaneous, and if BeReal makes them feel more authentic in general. Authenticity did not predict higher scores on the factor, showing that being more authentic overall does not make a person feel more authentic or spontaneous on BeReal. Also, there was no connection the other way around, indicating that PFAS did not have a significant effect on authenticity. Kreling and colleagues (2022) found that spontaneity at the moment on SNS predicts authenticity, this research however shows that if users feel authentic or spontaneous on BeReal, it does not ensure higher authenticity scores. Here are some methodological differences so the conclusions cannot be equally compared. But if the factor does not predict authenticity or vice versa, it shows that a positivity bias (Reinecke and Trepte, 2014) was not fully detected. Nevertheless, the second factor PPB was slightly negatively influenced by authenticity, and the factor also had a significant negative effect on authenticity. PPB explained expectations of response (reactions and comments) to BeReal posts, posing and setting the scene for them, and trying to post on time. The effects showcase that people ranking higher on the factor had a lower overall authenticity and the other way around. It should be highlighted that comparing the significant effect sizes presented in the models, authenticity's effect on PPB was rather small. Since the latter was extremely little and close to zero, the effect truly is minimal. Although this and the factor's effect on authenticity partially answers RQ2 a). Giving an insight into a fragmented positivity bias. The measures added to the scale of PPB were already supposed to predict authenticity negatively, as stated by Kreling and others (2022), plus posing and setting the scene for a post directly implies acting less authentic, showing that a higher PPB means also less authentic behavior on the

app. Although this research design (using regression models) does not determine if acting less authentically on BeReal specifically leads to feeling less authentic overall per se. Nevertheless, prior research shows that not wanting to present yourself authentically online, could imply having lower self-esteem and lower overall authenticity (Grieve & Watkinson, 2016). This could be also connected to higher stress levels, which make people less authentic on social media (Luo & Hancock, 2020). While the effect authenticity had on PPB was very small, it was still detected contributing to the notion of the former mentioned research. PPB's influence on authenticity could be connected to motivations to use SNSs. Social media can be utilized for gaining social support and for bettering aspects of one's socialization (Utz & Breuer, 2017; Ostic et. al, 2021). Therefore, expecting people to respond to one's posts and trying to make social media posts look better, could be connected to the former. While reactions and comments on BeReal posts can be defined as instant feedback, which can also better one's life satisfaction (Goodman-Deane et al., 2016), the higher expectancy of them could be a way of trying to better one's authenticity, in turn, to ensure greater well-being. The results show that the positivity bias (RQ2 a)) can be explained to a limited extent: people who act less authentically on BeReal (higher score of PPB) have a lower overall authenticity, and being less authentic overall makes people act slightly less authentic on BeReal. But having a higher overall authenticity does not necessarily mean feeling more authentic and spontaneous on the app and contrariwise.

For assessing friends' authenticity on BeReal it turned out that people who believe that their friends are expecting to receive more reactions and comments and spending time to pose and set the scene for their posts have a lower overall authenticity. This was explained by the negative effect FPB had on authenticity. This partially answers RQ2 b). A higher score of FPB shows that friends are perceived to behave less authentically on

the app. Although perceiving oneself as authentic compared to doing the same to someone else is a complex matter and the conclusions cannot be drawn straightforwardly. While Pronin (2008) concluded that comparing oneself to others differs since a person views themselves through their inward thought processes and others through outward actions. Nevertheless, it is still difficult to say if someone else acts or moreover feels authentic, therefore this finding would require further research. However, authenticity had a significant negative effect on FPB, but it was again very small. Showing that less authentic people also believe that other people are acting less authentically on an SNS. These connections partially answer RQ2 b). FPAS which explained friends creating their posts spontaneously, presenting themselves and their lives authentically, and trying to post on time was not affected by authenticity, nor it had a significant influence on the latter. Showcasing that the perception of how other people feel does not affect a person's overall authenticity, and at the same time authenticity does not influence the former, all leading back to the difficulties of detecting someone else's feelings (Pronin, 2008).

Reinecke & Trepte (2014) defined the positivity bias by looking at higher levels of overall well-being leading to more authenticity online and this research looked into the two-way relationship between overall authenticity and personal and friends' authenticity on an SNS. It turned out that people who tend to act less authentic on BeReal and at the same time the people who perceive their friends to act less authentic on BeReal have slightly lower overall authenticity. Being less authentic also makes people perceive the behavior of themselves and others on BeReal as less authentic. The relationships give an answer to RQ2. Although feeling authentic or spontaneous on the social media app and assuming that one's friends do the same, did not affect authenticity. Nor did authenticity have a substantial effect on feelings of authenticity and spontaneity for personal or friends' assessment. Therefore the positivity bias was partially detected.

The two main differences between perceiving personal and friends' authenticity on BeReal regarded the statements about posting on time and if BeReal is making a person act more authentic in their life in general. The latter was part of the PFAS factor for personal assessment but for friends, it was left out of the analysis, since a factor analysis presented a small factor loading showing a small correlation to either of the factors. While the concept of authenticity includes one's beliefs, awareness, feelings, and emotions (Barrett-Lennard, 1998; Kernis & Goldman, 2006; Wood et al., 2008) it is hard to assess what they are exactly for another person (Pronin, 2008), since mental cognitions cannot be seen. In addition, the statement about always trying to post on time belonged to PPB for personal assessment, and to FPAS for assessing one's friends. While authors defining authenticity also highlighted behavioral aspects of authenticity a potential explanation could be connected to social media usage behaviors. While posting on time on BeReal requires a person to not miss the notification which has a two-minute timeframe (Cheong, 2022), the frequency of checking one's phone could be quite high. A higher frequency of checking one's social media is connected to signs of depression (Yoon et al., 2019; Cunningham et al., 2021), and using SNSs very frequently could result in problematic use of social media (Bányai et al., 2017). Therefore people could associate '*always trying to post on time*' more as a negative feature, that could be connected with being less authentic (Jongman-Sereno & Leary, 2016). But for assessing friends, the statement was part of FPAS which did not influence authenticity. Thus it again comes down to the difficulties and complexities of perceiving the authenticity of others.

As it turned out, for people who had 26-50 friends on BeReal, authenticity levels were higher compared to people with up to 25 friends (that was used as a reference group). Since the effect for people who had over 50 friends was insignificant, it can be

roughly concluded that the authenticity levels of participants who had 26-50 friends were higher than those with people over 50 friends. That was shown by both regression models of personal and friends' authenticity, whereas the effects were of similar size. Having 26-50 friends did not act as a moderator in the regression models. Previous research shows that friend count on social media and self-disclosure have a complex relationship and it cannot be concluded that people who have a smaller number of friends disclose less or vice versa (Choi & Bazarova, 2015; Nemec Zlatolas et al., 2015). Self-disclosure or in other words showing your true self is a great part of authenticity (Kernis & Goldman, 2006; Wood et al., 2008), whereas this research shows that people who have a medium-sized friend network on BeReal feel more authentic. It can be supposed that a larger number of friends can make an account seem too public and a smaller number of friends too intimate (Dunbar 1993, 2014), thus a mid-sized friend count could produce more overall authenticity, where the rational ties are not too strong and close. This was an interesting finding in the research, but it is not directly connected to the aims of this paper, therefore the notion should be further assessed in future research.

In addition, people who had more than 50 friends perceived their friends to feel slightly less authentic and spontaneous on BeReal than people with up to 25 friends or 26-50 friends. As it turned out for participants who used the app less frequently (not daily) the scores for both personal assessment factors on BeReal were lower. Since authenticity also affected personal behavior on BeReal, both moderation and mediation effects were checked but presented no significant results. In addition, age negatively predicted PFAS, showing that older BeReal users feel less authentic and spontaneous on the app. Although the effect was of very small size, therefore it does not necessarily make a difference. Moreover, using BeReal for up to 5 minutes on a typical day predicts a lower score of FPAS. Indicating that people who spend less time on the app on a regular

day, perceive their friends to be less authentic and spontaneous. While these results are not directly connected to the research questions, they give ground for succeeding studies.

Limitations and Future Research

Although this research showed some significant results, they should be taken into account with the following limitations. First, a power analysis (sig. level = 0.05, power = 0.8) for linear regression, while assuming a small effect ($r = 0.1$) would require a sample of at least 782 participants. Thus with the sample of 352, some potentially significant effects may have gone unnoticed. In addition, after removing the outliers, the first regression analysis was conducted with a sample of 337 people. Moreover, the group of BeReal users had an even smaller sample of 154 participants, thus in the regression analyses for RQ2 there might have been more effects that were not detected. In the later part of the analysis more outliers were removed, reducing the sample further and making the effects harder to detect. While most of the participants were Estonian, using nationality as a control variable, whereas the other nationalities were presented in such a small proportion, could also interfere with predicting the results in a significant way. The age distribution was skewed towards the mid-twenties and in addition, by default, BeReal users are more on the younger side (Cheong, 2022). Therefore there was a bias in the sampling process itself. While the results showed that older people are somewhat more authentic, age distribution in the sample must be highlighted once more, indicating that a representative sample would be better for drawing these conclusions. Similar research could be done while assessing authenticity from other authors instead of Wood and others (2008), i.e., Kernis and Goldman (2006). A different approach to assessing one's authenticity could produce contrasting results. While authenticity is thoroughly connected to one's well-being, other aspects of it (personality traits, life satisfaction, stress, mental health) could be evaluated in connection to authenticity to draw more specific conclusions. What is more, longitudinal research could produce more accurate results than a cross-sectional design (Utz & Breuer, 2017). This type of research could better

help detect potential underlying mediators or moderators to assess the complexity of media effects on SNSs (Valkenburg & Peter, 2013b). The same research questions should also be studied with an online experiment, to reduce subjectivity deriving from self-assessments and detecting stronger and more direct causal relationships. Therefore, future studies could focus on measuring feelings of authenticity and well-being before and after using the app, to detect if there is a significant influence. The methodological approach of this research does not allow to draw binding conclusions, but it demonstrated the potentially underlying effects and paved the way for more research, preferably with an experimental design.

In addition, this research showcased that the statements used for evaluating one's personal and friends' authenticity on the app could be divided into two different factors. But since there are no uniform scales or approaches to assess SNSs (Zhang & Leung, 2014), these factor variables could be tested in further research to develop more fitting scales that help to better explain authenticity in the context of social media effects. Moreover, the factor variables were dissimilar to one another for personal and friends' assessment, thus they could not be equally compared. Furthermore, it became evident that people with a middle-sized friend count on BeReal rank slightly higher on overall authenticity, but this connection should be further studied by taking into account the privacy measures and affordances of the app (Nemec Zlatolas et al., 2015). Additionally, it should be mentioned that the author of this study is an active BeReal user, which could also interfere with the research design and interpretation of the results.

Conclusion

This explorative research gave insight into the connections between using BeReal and authenticity, by displaying both statistically significant and insignificant results. First and foremost it turned out that using BeReal does not affect one's authenticity. Showing that just by using the app, one's authenticity levels are not greater or lesser compared to people who do not use it. Although BeReal users who act less authentically on the app (by expecting to receive a lot of comments and reactions to their posts, spending time setting the scene and posing, and aiming to always post on time) had lower overall authenticity than people behaving more authentically on the app. The same can be concluded for people who perceive their friends to do the same (without the aim of posting on time). The connection was detected also the other way around: being less authentic overall makes people act slightly less authentic on BeReal and perceive their friends to do the same. Thus, a positivity bias was only partially explained since being authentic did not affect feeling authentic and spontaneous on BeReal and perceiving one's friends to do the same. There was also no effect the other way around. Apart from the research questions this research presented more connections that pave the way for potential new research projects delving into authenticity's connection to SNS use. But alas there were many limitations and shortcomings to this study, therefore all the results should be taken into account with caution. The same topic should also be studied further with a bigger sample and possibly with another methodological approach.

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Are you currently an active user of the BeReal app?

- ☐ Yes
- ☐ No

How often do you post on BeReal?

- ☐ every day
- ☐ 4-6 days a week
- ☐ 2-3 days a week
- ☐ once a week
- ☐ 2-3 days a month
- ☐ once a month
- ☐ more infrequently than the previous statements

How many friends do you have on BeReal?

Please write your answer in numbers. If you have more than 50 friends, mark it as '50+'.

Is your BeReal account for friends only or global?

- ☐ for friends only
- ☐ global

How much time do you spend on BeReal on a typical day?

- ☐ less than 5 minutes
- ☐ 5-15 minutes
- ☐ 16-30 minutes
- ☐ 31-60 minutes
- ☐ more than 60 minutes

Please write your age (in numbers).

What is your gender?

- ☐ female
- ☐ male
- ☐ other
- ☐ wish not to say

What is your nationality?

List: Albanian, Andorran, Armenian, Austrian, Azerbaijani, Belarussian, Belgian, Bosnia & Herzegovinian, British, Bulgarian, Croatian, Cypriot, Czech, Danish, Dutch, Estonian, Finnish, French, German, Georgian, Greek, Hungarian, Icelandic, Irish, Italian, Kosovan, Latvian, Liechtensteiner, Lithuanian, Luxembourger, Macedonian, Maltese, Moldavian, Monegasque, Montenegrin, Norwegian, Polish, Portuguese, Russian, Romanian, Sammarinese, Serbian, Slovak, Slovenian, Spanish, Swedish, Swiss, Turkish, Ukrainian, Other

What is your highest achieved level of education?

- ☐ middle school degree
- ☐ high school degree
- ☐ trade/vocational/technical training
- ☐ bachelor's degree
- ☐ master's degree
- ☐ doctorate
- ☐ no degree

What is your current employment status?

- ☐ employed
- ☐ self-employed
- ☐ not employed, looking for work
- ☐ not employed, not looking for work
- ☐ student
- ☐ working student
- ☐ military
- ☐ retired
- ☐ unable to work

Thank you for completing this questionnaire!

You have helped me a lot with my Master's Thesis. The main aim of this study is to find out whether there is a connection between using the social media app BeReal and one's authenticity. I would be very grateful if you could forward the link to people you know that would also be interested in participating:
<https://www.soscisurvey.de/authenticity-sns/>.

If you have any further questions about the study, do not hesitate to contact me

Drop-out Page

Thank you for your initial interest!

You have decided to drop out of the study. You can only take part in the questionnaire while explicitly stating that you have understood your rights and wish to participate.

Abstract

This study explores the associations between using BeReal, a social media app, and authenticity to investigate micro-level media effects related to one's well-being. Since BeReal is a largely unstudied Social Network Service (SNS) that has gained popularity only in recent years, an online survey (N=352) was conducted to assess the research gap. Participants were asked to rate their overall authenticity in addition to authentic feelings, and behaviors on the app. Regression models were run to detect causal relationships, which first uncovered that using BeReal does not affect a person's authenticity. Although, being more authentic makes people act slightly more authentic on the app and perceive their friends to behave the same. In addition, there is a two-way effect: acting more authentic on BeReal and believing one's friends to also behave more authentically on the app ensures a higher overall authenticity. This research shows that there is a positivity bias between authenticity online and offline and gives initial insight into authenticity's connection to using BeReal.

Abstrakt

Diese Studie untersucht die Zusammenhänge zwischen der Nutzung von BeReal, einer Social-Media-App, und Authentizität, um Medieneffekte auf Mikroebene in Bezug auf das eigene Wohlbefinden zu untersuchen. Da BeReal ein weitgehend unerforschter Social Network Service (SNS) ist, der erst in den letzten Jahren an Popularität gewonnen hat, wurde eine Online-Umfrage (N=352) durchgeführt, um die Forschungslücke zu bewerten. Die Teilnehmer:innen wurden gebeten, ihre allgemeine Authentizität sowie ihre authentischen Gefühle und Verhaltensweisen in der App zu bewerten. Mit Hilfe von Regressionsmodellen wurden kausale Zusammenhänge aufgedeckt, die zunächst ergaben, dass die Nutzung von BeReal eine Person weder authentischer noch weniger authentisch macht. Allerdings führt eine höhere Authentizität dazu, dass sich die Personen in der App etwas authentischer verhalten und auch ihre Freunde so wahrnehmen. Darüber hinaus gibt es einen wechselseitigen Effekt: Wenn man sich auf BeReal authentischer verhält und glaubt, dass seine Freunde sich auf der App ebenfalls authentischer verhalten, sorgt dies für eine höhere Gesamtauthentizität. Diese Untersuchung zeigt, dass es einen positiven Bias zwischen Authentizität online und offline gibt und bietet somit einen ersten Einblick in den Zusammenhang von Authentizität und der Nutzung von BeReal.