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Self-expression can be authentic or inauthentic, with differential outcomes for well-being: Development of the authentic and inauthentic expression scale (AIES)

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ABSTRACT

Being oneself in interpersonal relationships has many benefits, but research has yet to distinguish between (intrapersonal) feelings of authenticity and (interpersonal) authentic behaviors. Four studies developed and tested a scale designed to measure two types of self-expression: authentic and inauthentic. Findings consistently validated a two-factor structure: there were two distinct forms of expressing oneself, authentic and inauthentic. Findings consistently demonstrated that authentic expression was associated with positive need satisfaction and well-being outcomes, while inauthentic expression was associated with less autonomy satisfaction and greater negative affect. While authentic expression had consistent positive effects, inauthentic expression was more nuanced, suggesting it may not be wholly negative.

1. Introduction

Individuals share their thoughts and feelings daily and across numerous social contexts when they express themselves (Itzhakov et al., 2018). When people self-express, they allow others a glimpse into their personalities, preferences, personal styles of interacting, and ways of thinking. Doing so may require trusting others with information about oneself with potential for judgment. It can aid or prevent relationship development, which consequently makes expressing oneself to others risky. Yet, self-expression is understood as an important way for individuals to form meaningful relationships (e.g., Graham et al., 2008) and for healthy psychological development (or for health and well-being; Clark & Finkel, 2004).

We propose the benefits of self-expression accrue only when the expression is authentic. Some may not be willing or able to take the risk of allowing others to see their true – authentic – self. They may still express thoughts and ideas, but in ways that are ingenuine and aimed at pleasing or satisfying others. Others may express themselves authentically regardless of the social situation or consequences. In the current paper we explore this distinction to link two somewhat disparate literatures: a first concerning authenticity, typically an intrapersonal experience (e.g., Sedikides et al., 2017), and a second concerning expression,

typically an *interpersonal* experience (Tobin, 1995).

Researchers have distinguished authentic self-expression from other forms of self-expression that are not as authentic. The “true self”, or authentic self, is expressed when an individual behaves in ways consistent with their inner self (McKenna et al., 2002). This distinction recognizes that authentic expression may be both risky and meaningful; yet, we argue, such authentic self-expression does not have to be unusual – it can be a daily, even predominant, occurrence in interpersonal interactions. This type of authentic expression would be best understood in terms of how closely to the self one’s thoughts, feelings, and values are expressed. This focus on self-congruence is derived from the literature on authentic experience, which highlights the importance of self-congruence in authenticity (e.g., Kraus et al., 2011), but does not differentiate the feeling of being the ‘real me’ – an internal experience, and expression of the ‘real me’ – an interpersonal experience and outward-facing behavior. This outward-facing behavior should be closely linked to the internal process and operate through a positive feedback loop whereby one expresses themselves more authentically when feeling more authentic internally.

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1.1. The authentic self and authentic and inauthentic expression

Previous research on authenticity puts a focus on internal feelings, rather than external expressions, of being authentic or inauthentic (Wood et al., 2008). Feeling authentic has been shown to have many positive outcomes, such as higher mental health and well-being (Sedikides et al., 2017), and more positive as well as less negative affect (Thomaes et al., 2017). Alongside Wood et al.'s (2008) scale, a widely used measure of authenticity is the Kernis-Goldman Authenticity Inventory (KGAI; Kernis & Goldman, 2006), which, includes a behavioral scale dimension alongside its focus on internal processes. These behavioral authenticity items measure one's general tendency to behave in accordance with one's beliefs (e.g., "I find that my behavior typically expresses my values").

Likewise, a scale on a construct similar to authentic expression has recently been published on the topic of "realness" – similarly defined as behaving in ways congruent with the true self (Hopwood et al., 2021). While this scale is conceptually similar to authentic expression, the scale of realness is used as a single dimension varying on authentically versus not authentically expressing. Herein, we build on this foundational work and test whether authentic and inauthentic expressions are two qualitatively different dimensions in their own right with unique significance and consequences, rather than reflecting two ends of one shared dimension.

We build on work arguing that expressing inauthentically involves behaviors that are often incongruent, and which are instead aimed at maintaining connection or avoiding relational fallout (Leary, 2003; Tesser, 2002). This inauthentic expression may result in negative psychological consequences, since individuals feel they must express themselves inauthentically to preserve the relationship. Expressing oneself inauthentically may also signal an expectation that one would not be valued for who they are if expressing their true self (Leary, 2003). When one expresses inauthentically, doing so can lead to psychological distress, for example greater anxiety (Cheng, 2004) and depression (Erickson & Wharton, 1997).

1.2. Self-determination theory approach to self-expression

The framework of Self-Determination Theory (SDT; Ryan & Deci, 2017) is informative for conceptualizing downstream consequences of authentic and inauthentic expression. SDT posits three basic psychological needs – for autonomy, relatedness, and competence – that must be satisfied for optimal human functioning and well-being (Ryan & Deci, 2017). These psychological needs have been shown to have clear, measurable effects on individuals' psychological interest, development, and wellness (Ryan & Deci, 2017). Autonomy is defined as the need to feel volitional and congruent in one's actions and experiences (Friedman, 2003). Relatedness concerns feeling connected to others interpersonally (Deci & Ryan, 2014), and competence is the need to operate effectively, especially in circumstances important to one's life (e.g., at work; Deci & Ryan, 1985).

Following from SDT, authentic, but not inauthentic, expression should promote basic psychological need satisfaction for autonomy, relatedness, and competence. Of the three psychological needs, the link between autonomy need satisfaction and authentic expression is most evident. For example, a primary way to support autonomy is to encourage opportunities for self-expression. Feeling able to express oneself honestly and fully is an important way individuals can feel they are being themselves (Lynch et al., 2009; Ryan & Deci, 2017).

Support for self-expression is not only a way of supporting autonomy, but is also important to social support more generally, as self-expression may in part be determined by the reactions of others to meaningful self-expressions in the past (Tobin, 1995). Therefore, authentic expression may also support relatedness, since verbal expressions are fundamentally a relational experience that can foster closeness in the best circumstances (e.g., Brunell et al., 2007). Previous

research in SDT has found that the need for relatedness leads people to actively pursue quality, autonomy-supportive relationships (Deci & Ryan, 2014). In these relationships, partners support one another's autonomy such as through allowing for authentic self-expression, and by doing so satisfy one another's need for relatedness (Deci & Ryan, 2014).

Finally, we test the idea that authentic expression promotes competence. Indeed, the ability to express oneself accurately may be associated with self-efficacy, as previous studies have found that autonomy satisfaction leads to greater self-efficacy (e.g., van Mierlo et al., 2006). Research has also shown that the need for competence can only be satisfied when the person themselves has initiated and willingly undertaken the actions. For this reason, competence may be satisfied incidentally when autonomy is satisfied (e.g., Ryan & Deci, 2006, 2017).

1.3. Authenticity as contextual or dispositional

Like other behaviors, authentic and inauthentic self-expression may differ across contexts (state-dependent) and be characterized as a more stable dispositional tendency (individual-level; e.g., Cook et al., 2017). As a dispositional tendency, individuals may select to express themselves authentically or inauthentically across contexts. As a state, it may indeed be that certain contexts account for substantial variability in whether expression is more authentic or inauthentic. Variability at both state and dispositional levels has been observed in the study of intrapersonal authenticity (e.g., Kernis & Goldman, 2006; Lenton et al., 2013), and we would expect the same to be true for interpersonal authenticity. Measuring both is important because substantial variability at the dispositional level suggests that future avenues of research may be well-justified in investigating developmental pathways that give way to authentic or inauthentic expression, whereas substantial variability at the contextual level suggests influence by others with whom one is interacting motivate authentic expression in the moment.

In the present research, we developed a scale to measure authentic versus inauthentic expression to understand how *interpersonal* expressions of the self (authentic expression) relate to *intrapersonal* feelings of authenticity. Studies 1 and 2 focused on scale development, and Studies 3 and 4 assess concurrent validity and tested the extent to which authentic expression is contextual or dispositional. Broadly, we anticipated that:

Hypothesis 1: Authentic and inauthentic self-expression can be meaningfully distinguished from one another. (Studies 1 and 2)

Hypothesis 2: Authentic self-expression would promote well-being and need satisfaction, whereas inauthentic self-expression would undermine it. (Studies 3 and 4)

Hypothesis 3: Authentic and inauthentic self-expression would relate to felt authenticity. (Study 4)

1.4. Open practices

Five datasets are used for these four studies. All variables and data reported in these studies are freely available to researchers on osf.io under DOI <https://doi.org/10.17605/OSF.IO/26VR7> (Al-Khouja et al., 2021).¹ Data is anonymized and does not identify individual respondents.

2. Study 1: Initial item selection

The first study was aimed at initial item selection for an authentic and inauthentic expression scale from a large pool of potential items.

2.1. Methods

Participants were 402 adults (53% identified as women) recruited online through Prolific Academic to take part in a four-minute survey "regarding expression frequency". Most participants identified as White

(83%) and were from the United States (99.5%). The ages of participants were between 18 and 65 years old ($M = 37.51$ years, $SD = 12.75$).

The survey consisted of 60 self-expression items, developed by two authors of the paper after closely reviewing prior scales and the literature on authenticity and self-expression: 30 items each were developed to reflect authentic and inauthentic expression, respectively (see Appendix A). Items were presented in a random order with the following prompt: “Below is a collection of statements about your general experiences. Please indicate how true each statement is of your experiences overall. Remember that there are no right or wrong answers. Please answer according to what really reflects your experience rather than what you think your experience should be.” Responses were given on a Likert-type scale ranging from 1 (*Hardly ever true of me*) to 6 (*Almost always true of me*). Additionally, two attention-check items were included within the survey items (e.g., “Please select 4 for this question as an attention check”). A guide to scale development recommends using two-to-three times as many items than one would expect to be in the final scale (Carpenter, 2018). They further recommend a minimum

standard of 5:1 participant-to-item ratio. As this was an initial item selection study being analyzed with an exploratory factor analysis, the sample of 402 is well above the recommended minimum ratio of 5:1, ensuring sufficient power for this analysis (Carpenter, 2018; Kyriazos, 2018).

2.2. Results

Four participants failed the attention-check items and were removed from analyses leaving a total of 398 participants. Items were first tested for an appropriate amount of variability (Clark & Watson, 1995). The 60 initial items were subjected to descriptive analyses, and items that were skewed ($\text{skew} > \pm 1$) were excluded from the item pool, as had been done in previous scale development studies (e.g., Weinstein et al., 2012). A total of 9 items were skewed above or below 1, all which were part of the inauthentic expression factor. See Fig. 1 for example distributions of those items that were removed for skew or retained for further consideration. After removing these skewed items, a total of 51 items

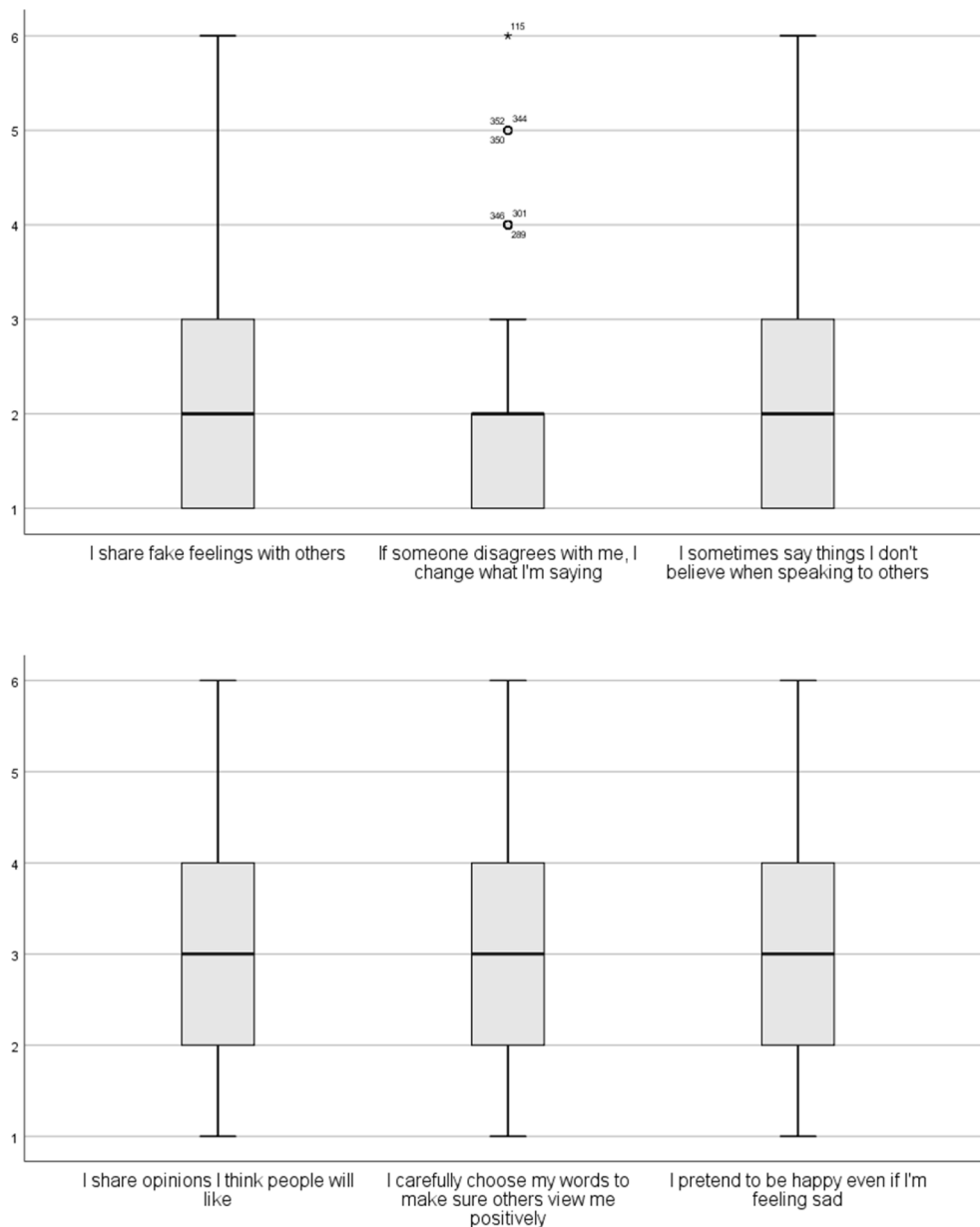


Fig. 1. Example Item Distributions. *Note.* The top three items provide examples of rejected items with poor distributions, whereas the three bottom items offer examples of retained items with adequate distributions.

remained.

Exploratory factor analyses (EFA) were conducted with the remaining 51 items, using best practices of participant to item ratio of at least 5:1 (Gorsuch, 1988). In the present study the ratio was close to around 8:1. Promax-rotation was used to account for dependence between the two subscales, authentic and inauthentic expression (Costello & Osborne, 2005). From this EFA, we selected items that consistently loaded onto their respective subscale and used strict criteria to identify appropriate items. To avoid cross-loading, only items that loaded at 0.70 or above onto one factor (Kline, 1994), and did not load at 0.40 or above on a second factor, were retained. Thirty items were removed for loading below the 0.70 threshold on their factor (e.g., the item “I can express myself even if someone disagrees with me” loaded 0.51 for inauthentic expression). None of the items that loaded at 0.70 or above for their factor loaded at 0.40 or above on the other factor. Twenty-one items met our strict criteria: 10 items representing authentic expression and 11 inauthentic expression items.

We then ran a second EFA using the remaining 21 items and found that the scale held a two-factor structure. All items, except one, loaded above 0.70 and did not cross-load above 0.40 (see Table 1). One inauthentic expression item loaded below the 0.70 threshold (“I pretend to be happy even if I’m feeling sad” loaded at 0.54) and was removed.

From these final 20 items, we found that the 10 authentic expression items achieved a higher eigenvalue than the 10 inauthentic expression items: Authentic expression (eigenvalue = 9.35, accounted for 44.54% of the variance in the items) and inauthentic expression (eigenvalue = 4.18, 19.92% of the variance). A reliability analysis showed exceptionally good internal reliabilities for both authentic ($\alpha = 0.96$) and inauthentic expression subscales ($\alpha = 0.92$). A correlation was also run between the two factors and revealed a medium (Cohen, 1992) and statistically significant negative correlation, $r(397) = -0.39, p < .001$, indicating these subscales tap two related, yet distinct constructs.

2.3. Conclusions

In Study 1 we reduced an initial 60-item pool of items that reflect both authentic and inauthentic expression to 20 items with scores that

Table 1
Study 1 Exploratory Factor Analysis Items Retained.

	Factor 1	Factor 2	α
Authentic Expression			0.96
I express my real thoughts and feelings to others	0.90	0.06	
I express my true self to others	0.90	-0.12	
I share my true feelings with others	0.90	0.09	
I express my real thoughts and feelings	0.86	-0.08	
I share the things I think and feel	0.86	0.06	
I express my true self when I'm with others	0.85	-0.12	
I express myself to others around me	0.85	-0.11	
I think it's important to express my real thoughts and feelings to others	0.84	0.10	
I can be who I am with others	0.77	-0.11	
The things I say to others reflect exactly who I am	0.74	-0.08	
Inauthentic Expression			0.92
I say the things I think people want to hear	-0.08	0.82	
I try to express the emotions people want to see	-0.04	0.80	
I like to think of myself as a people pleaser, even if it's not really 'me'	0.02	0.79	
Others' views of me changes how I express myself	-0.02	0.78	
I express myself a certain way so that others will like me	0.01	0.78	
What others think of what I say is more important than what I think	0.07	0.77	
I carefully choose my words to make sure others view me positively	0.11	0.75	
If I think others won't agree with what I say, I say what they want to hear	-0.12	0.74	
I try to express the 'right' emotions to other people	0.02	0.73	
I share opinions I think people will like	0.16	0.73	

were normally distributed, and which best reflected authentic and inauthentic expression. Exploratory factor analysis revealed that these 20 items loaded onto their respective factors highly and did not cross-load. The two resulting subscales showed good internal reliability and were moderately negatively correlated with each other.

3. Study 2: Secondary item selection & confirmatory factor analysis

Though numerous behaviors can represent forms of expression, verbal expression conveyed through speech reflects in-the-moment intentional decisions about how to communicate thoughts and feelings (Lindquist et al., 2006). Studies that have put their focus on verbal forms of self-expression have shown that this type of self-expression is important for mental health outcomes such as lowered social anxiety and greater self-awareness (Itzhakov et al., 2018). A goal of Study 2 was to select a final set of items to closely represent the authentic and inauthentic expression, and to conduct a confirmatory factor analysis (Fokkema & Greiff, 2017) to test the internal coherence of the measure once again. Shifting from Study 1 to Study 2, we retained items that referred to intentional, verbal behavior. We narrowed the scope to increase conceptual clarity of the work, and by doing so to highlight this prominent way by which people express themselves (e.g., Rimé et al., 2002), so that the scale is useful in future tests of interpersonal exchanges and conversations, for example in clinical contexts (e.g., Pawelczyk, 2011).

Bearing in mind the shift to verbal self-expression, we also examined the relation of these two factors to the similar, yet distinct construct of self-censorship. Self-censorship consists of inhibited expression, or lack of expression, in certain situations or contexts (Hayes et al., 2005). Conceptually, self-censorship should differ from inauthentic expression, as inauthentic expressions still involve actively expressing, but in an inauthentic manner. While inauthentic expression may include passive self-censorship, self-censorship does not cover all forms of inauthenticity. Thus, a measure of self-censorship was added to this study as a measure of discriminant validity. This ensures that inauthentic self-expression was not effectively a form of self-censorship, but rather was still more closely tied to the broader underlying construct of expressing oneself.

3.1. Methods and results

3.1.1. Participants and procedure

Four-hundred and three participants (53.6% identified as women) were recruited online using Prolific Academic to take part in a four-minute survey “regarding expression frequency”. Participants mostly identified as White (73.2%) and were from the United States (99.3%). Participants' ages ranged between 18 and 65 years ($M = 34.26$ years, $SD = 12.21$). The survey consisted of the 20 authentic/inauthentic expression items retained from Study 1, presented to participants with the same prompt and scale anchors. Additionally, the 8-item Willingness to Self-Censor Scale (Hayes et al., 2005) was included to assess the discriminant validity of inauthentic and authentic self-expression from this conceptually related construct. The Willingness to Self-Censor scale assesses thoughts, feelings, and past behavior related to self-censorship (e.g., “It is difficult for me to express my opinion if I think others won't agree with what I say”) on a five-point scale from ‘Strongly disagree’ to ‘Strongly agree’. The two attention-check items from Study 1 were used to identify and remove inattentive participants. To conduct a confirmatory factor analysis on the new scale we followed recommendations of a minimum ratio of 10:1 (participants to items) but further increased the sample to 403 ensuring high power for this analysis (Kyriazos, 2018).

3.1.2. Conceptual and empirical refinement

Four participants failed the attention check items and were removed

from analysis (final $n = 399$). The remaining participants provided data for all 20 items, but in line with the focus on verbal self-expression, 12 items were removed that were conceptually distant and redundant in the specific words that they used to operationalize the constructs (Appendix B notes the 12 items which were dropped). These decisions were made to achieve stronger conceptualization of outward authentic and inauthentic behavior in the form of verbalizations. For example, the item “I can be who I am with others” was removed since it did not represent verbal communications and could be taken as more of an internal form of authenticity. An 8-item scale was developed through this process, consisting of four authentic and four inauthentic expression items. With these eight items, an EFA was conducted to check whether these items loaded well onto their respective factors. Table 2 shows the results of the EFA, with each of the eight items loading onto two factors highly and without cross-loading.

3.1.3. Confirmatory factor analysis to test factor structure

Following the EFA, we performed a confirmatory factor analysis (CFA) with our eight items testing a two-factor model that supported our scale structure. The CFA was run using the program Jamovi, a statistical program built on R (The Jamovi Project, 2020). Standardized factor loadings ranged from 0.71 to 0.90 for authentic expression and from 0.70 to 0.84 for inauthentic expression, all $ps < 0.001$ (see Fig. 2). Model fit was assessed for our proposed scale model using common fit statistics and recommended cutoffs taken from Hooper et al., 2008. The Comparative Fit Index (CFI) = 0.96, well above the 0.90 minimum, and the Standardized Root Mean Square Residual (SRMR) = 0.06, below the 0.08 maximum. The Tucker Lewis Index (TLI) = 0.94, meaning our model improves the fit by 94% relative to the null, just shy of the usual 95% cutoff. Additionally, the Root Mean-Square Error of Approximation (RMSEA) was found to be 0.09, 90% CI [0.08, 0.11], slightly higher than the usual 0.08 threshold and indicating mediocre fit, but this measure has been shown to be sensitive to sample size and degrees of freedom ($df = 19$; Kenny et al., 2015). Together, these results suggest that the model reasonably fits the data, especially on indicators that are not sensitive to sample size. This was compared to the model fit for a one-factor structure, which showed worse factor loadings and poor model fit on all fit indices (see Appendix C for detailed results). Taken together, results support the two-factor structure of the scale.

3.1.4. Rasch analysis

We also performed a Polytomous Rasch analysis using Jamovi on all 8 AIES items together, finding worse person reliability (0.52) versus when items were tested as two separate subscales (AES: 0.88, IES: 0.81). All items showed acceptable fit statistics when tested all together or by subscale, with mean square infit and outfit statistics within the recommended range of 0.6–1.4 (Bond & Fox, 2013). However, the item residuals were more highly correlated when all 8 items were entered together versus when each subscale was tested separately; these higher correlations indicate that there is not unidimensionality among the eight

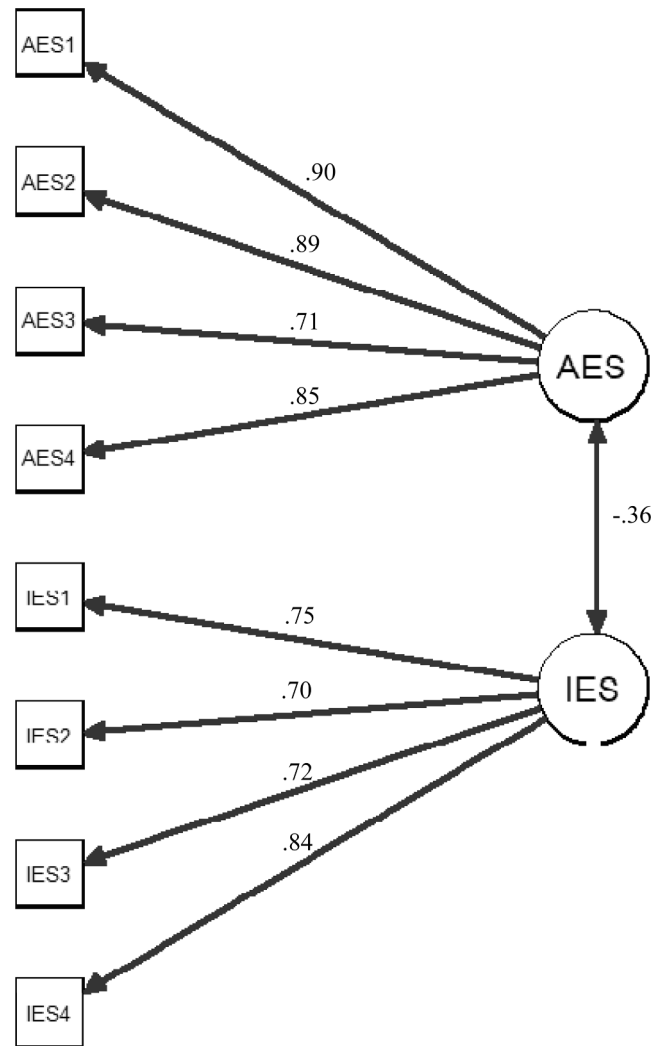


Fig. 2. Results of Study 2 Confirmatory Factor Analysis. Note. Factor loadings and covariances are standardized estimates.

items (Yen, 1984). Taken together, the Rasch analysis provided further evidence of a two-factor solution for the AIES, and that items were well fitting.

3.1.5. Authentic and inauthentic self-expression and self-censorship

Lastly, we tested the discriminant validity of the inauthentic and authentic expression factors, comparing each to the conceptually related construct of self-censorship, as operationalized with the Willingness to Self-Censor Scale. Findings of Pearson correlations showed authentic expression negatively correlated with inauthentic expression ($r(399) = -0.29, p < .001$) as well as self-censorship ($r(399) = -0.53, p < .001$), while inauthentic expression correlated positively with self-censorship ($r(399) = 0.59, p < .001$). We then correlated both the authentic and inauthentic expression items with the self-censorship items and found that each shared 30% of the variance with self-censorship. These correlations were not substantial enough to suggest the three constructs are isomorphic with one another (Cohen, 1992). Furthermore, all items from the Self-Censor Scale were found to load onto a third factor when items were placed in a factor analysis with the 8-item scale (items loaded at or above 0.69; with no cross-loading higher than 0.16).

3.2. Conclusions

Study 2 identified a final set of items that assessed, coherently and

Table 2
Study 2 Exploratory Factor Analysis: Final Items

Construct/Items	Factor 1	Factor 2	α
Authentic Expression			0.90
I share the things I think and feel	0.91	0.09	
I express my real thoughts and feelings to others	0.91	−0.01	
I share my true feelings with others	0.91	−0.02	
The things I say to others reflect exactly who I am	0.78	−0.05	
Inauthentic Expression			0.84
I share opinions I think people will like	0.18	0.87	
I carefully choose my words to make sure others view me positively	0.05	0.84	
I say the things I think people want to hear	−0.08	0.83	
If I think others won't agree with what I say, I say what they want to hear	−0.20	0.73	

independently, both authentic and inauthentic verbal self-expression. Confirmatory factor analysis provided support for the two-factor structure of the scale. A potentially conceptually close construct of self-censorship was also included in this study to ensure our scale measured the extent to which verbal expressions that are conveyed are authentic and inauthentic, and not whether verbal expressions are altogether concealed (i.e., censored). It is noteworthy that although authentic and inauthentic expression were correlated, the correlation was very small, suggesting that these two constructs are empirically as well as conceptually distinct. Furthermore, we identified independent variance distinguishing the *amount* of self-expression (i.e., self-censorship) and the *type* of self-expression (i.e., authentic). Results also showed that items from our expression scale loaded on two independent factors, with self-censorship items on a third factor.

4. Study 3: Predicting well-being

Following item selection and CFA in Study 2, we retained eight items of the newly developed Authentic and Inauthentic Expression Scale (AIES), which consisted of two subscales: An Authentic Expression Scale (AES) and an Inauthentic Expression Scale (IES). In Study 3, we tested the AIES' concurrent validity using regression analyses; expecting the AES to predict psychological need satisfaction, as well as greater well-being and the IES to negatively predict need satisfaction and worse well-being.

4.1. Methods

One-hundred eighty-two first year university students in the United Kingdom took part in this study as part of a larger survey which consisted of multiple studies. Surveys were taken online in an in-person lab setting ensuring full attention was given to the study. Students mostly identified as women (80.5%) and White (76.9%). Analysis using G*Power found the power of this sample for regression analysis to be 0.99 (Faul et al., 2009).

4.1.1. Measures

Authentic and Inauthentic Expression. The 8-item AIES was taken by participants with the same prompt and scale anchors as the previous studies (AES, $\alpha = 0.86$; IES, $\alpha = 0.79$).

Need Satisfaction. Need satisfaction was measured using the 9-item Basic Psychological Needs Satisfaction Scale (BPNS; Deci & Ryan, 2000; Gagné, 2003). The BPNS measures the satisfaction of the three basic psychological needs in the past month. Items were asked with a 7-point scale ranging from 'Not at all true' to 'Very true'. Three items represented each need: autonomy (e.g., "I felt free to be who I am"; $\alpha = 0.60$), competence (e.g., "I felt like a competent person"; $\alpha = 0.76$), and relatedness (e.g., "I felt loved and cared about"; $\alpha = 0.75$). Each subscale had one reverse-scored item, with higher scores exemplifying greater need satisfaction. All BPNS items together had a total need satisfaction reliability of $\alpha = 0.85$.

Positive and Negative Affect. Participants completed the 20-item Positive and Negative Affect Schedule (PANAS; Watson, et al., 1988), which presented participants with 10 positive emotions (e.g., "Proud"), and 10 negative emotions (e.g., "Ashamed") experienced in the past month. Participants responded to each emotion on a 9-point scale from 'Not at all' to 'Extremely'. Positive and negative emotions were computed into separate composites, with higher scores representing more positive ($\alpha = 0.85$) or more negative ($\alpha = 0.84$) emotions experienced.

Self-Esteem. Finally, participants completed the widely used 10-item Rosenberg Self-Esteem scale (Rosenberg, 1965), which measured their general self-esteem in the past month (e.g., "I took a positive attitude toward myself") on a 4-point scale from 'Strongly disagree' to 'Strongly agree'. Four of the ten items were reverse scored so that higher scores represented higher self-esteem ($\alpha = 0.87$).

4.2. Results

4.2.1. Regression analyses

Simultaneous linear regression analyses were used to test the correlates of the two AIES subscales (AES and IES tested simultaneously) on need satisfaction and well-being (see also Pearson correlations underlining these findings in Table 3). Authentic expression was found to be significantly related to all outcome variables: positively for autonomy satisfaction ($\beta = 0.43$, $t(181) = 6.56$, $p < .001$, 95% CI [0.32, 0.60]), competence satisfaction ($\beta = 0.31$, $t(181) = 4.37$, $p < .001$, 95% CI [0.21, 0.56]), relatedness satisfaction ($\beta = 0.42$, $t(181) = 6.12$, $p < .001$, 95% CI [0.41, 0.79]), positive affect ($\beta = 0.31$, $t(181) = 4.31$, $p < .001$, 95% CI [0.19, 0.52]), and self-esteem ($\beta = 0.35$, $t(181) = 4.98$, $p < .001$, 95% CI [0.11, 0.25]), and related negatively to negative affect ($\beta = -0.20$, $t(181) = -2.79$, $p = .006$, 95% CI [-0.50, -0.09]). Inauthentic expression related positively to negative affect ($\beta = 0.19$, $t(181) = 2.57$, $p = .011$, 95% CI [0.07, 0.50]) and negatively to autonomy satisfaction ($\beta = -0.18$, $t(181) = -2.44$, $p = .016$, 95% CI [-0.33, -0.04]). The IES did not relate to competence satisfaction ($\beta = -0.04$, $t(181) = -0.54$, $p = .593$, 95% CI [-0.24, 0.14]), relatedness ($\beta = -0.11$, $t(181) = -1.55$, $p = .123$, 95% CI [-0.37, 0.04]), positive affect ($\beta = -0.07$, $t(181) = -0.81$, $p = .422$, 95% CI [0.42, -0.25]), or self-esteem ($\beta = -0.05$, $t(181) = -0.65$, $p = .515$, 95% CI [-0.10, 0.05]).²

4.3. Conclusions

In Study 3 we further tested the AIES 8-item version in a new dataset, to evaluate the predictive ability of its two subscales. As expected (Hypothesis 2), authentic expression predicted more positive outcomes (need satisfaction, positive affect, and self-esteem) and less negative affect. Inauthentic expression was associated with some need satisfaction and well-being outcomes (less autonomy satisfaction and greater negative affect), but not to other outcomes as we had anticipated. Authentic expression consistently relates to well-being and need satisfaction, while inauthentic expression does not.

5. Study 4: Interpersonal and intrapersonal daily authenticity

In a final study, we tested the AIES further, using a diary study design. With this study we examined the stability of the construct in individuals: we explored whether authentic and inauthentic self-expression is best understood as a dispositional measure stable in individuals across time, or a situationally specific measure that varies across domains and interpersonal experiences.

5.1. Methods

One-hundred and six university students (86.6% identified as women) signed up to participate in our diary study. Power analysis was not conducted for this study, but we followed recent recommendations to recruit as many participants as resources allowed (Lakens, 2021). In this case we recruited as many participants as would sign up to participate. Participants were aged 18–39 years ($M = 19.17$ years, $SD = 2.57$) and were mostly British (84.9%). Diary data was collected for seven consecutive days using participant's email address to both distribute the survey as well as link the participant's datapoints. Surveys were sent out at the end of the day so that scales could measure experiences for the current day. After data collection was completed, each participant was assigned a number ID and all personal data was deleted from the datasets.

5.1.1. Daily measures

Measures from Study 3 were used in this diary study, this time prompting responses about individuals' experiences for the day. Participants responded to the 8-item AIES (AES, $\alpha = 0.90$; IES, $\alpha = 0.87$), as well as the Rosenberg Self-Esteem scale ($\alpha = 0.93$), and the BPNS

Table 3
Results of Study 3 Correlations

Constructs	1	2	3	4	5	6	7	8
AES	–							
IES	–0.16*	–						
Autonomy	0.46**	–0.23**	–					
Competence	0.32**	–0.09	0.56**	–				
Relatedness	0.43**	–0.17*	0.62**	0.56**	–			
Positive Affect	0.32**	–0.11	0.41**	0.46**	0.42**	–		
Negative Affect	–0.23**	0.22**	–0.48**	–0.55**	–0.42**	–0.22**	–	
Self-Esteem	0.36**	–0.10	0.57**	0.71**	0.57**	0.47**	–0.59**	–

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

(autonomy, $\alpha = 0.73$; competence, $\alpha = 0.86$; relatedness $\alpha = 0.82$; total need satisfaction, $\alpha = 0.91$). To reduce participant burden, new scales were used to assess positive and negative affect, and a brief measure was added to assess intrapersonal authenticity.

Positive and Negative Affect. Affect was measured with a 9-item mood scale previously used in diary study contexts (Emmons, 1991; Reis, et al., 2000). Four adjectives represented positive emotions (e.g., “Joyful”) and 5 represented negative emotions (e.g., “Frustrated”). Responses were given on a 7-point scale ranging from ‘Not at all’ to ‘Extremely’ in terms of the extent to which participants had experienced each emotion during that day (positive, $\alpha = 0.96$; negative $\alpha = 0.86$).

Intrapersonal Authenticity. State-level intrapersonal authenticity was measured using a 3-item scale previously used in daily diary research (Fleeson & Wilt, 2010). These items were asked in terms of how participants felt that day on a 7-point scale from ‘Does not describe me at all’ to ‘Describes me very well’. Items included: “I wore a number of social masks” (reverse-scored), “I was in touch with my true self” and “I felt like I was really being me” ($\alpha = 0.87$).

5.2. Results

5.2.1. Multilevel modeling analyses

Multilevel models were conducted allowing us to see how much variance was explained at the daily level (Level 1) as well as at the mean level across the diary period (Level 2). Multilevel models are useful for diary studies due to their accommodation of nested data and handling of missing data (e.g., Bolger & Shrout, 2007; Bryk & Raudenbush, 1992). Data were missing from participants who completed fewer than 7 days.

Table 4
Direct Effects of AIES and Intrapersonal Authenticity on Outcome Variables at Levels 1 and 2

Outcome	AES				IES				Authenticity			
	Level 1: Daily level		Level 2: Across 7 days		Level 1: Daily level		Level 2: Across 7 days		Level 1: Daily level		Level 2: Across 7 days	
	B(t)	p	B(t)	p	B(t)	p	B(t)	p	B(t)	p	B(t)	p
Authenticity	0.68(10.77)	0.001	1.05(16.41)	0.001	–0.36 (–4.36)	0.001	–0.16 (–2.01)	0.048	–	–	–	–
Autonomy	0.42(8.00)	0.001	0.74(10.96)	0.001	–0.30 (–4.64)	0.001	–0.22 (–2.95)	0.004	0.50(12.01)	0.001	0.69(14.67)	0.001
Competence	0.45(8.23)	0.001	0.93(7.32)	0.001	–0.21 (–2.64)	0.009	0.05(0.40)	0.693	0.46(8.17)	0.001	0.83(11.17)	0.001
Relatedness	0.67(11.35)	0.001	0.98(9.50)	0.001	–0.10(–1.19)	0.236	–0.03 (–0.23)	0.820	0.59(8.11)	0.001	0.82(12.24)	0.001
Positive Affect	0.62(7.92)	0.001	1.13(10.95)	0.001	–0.12 (–1.37)	0.170	0.27(2.68)	0.009	0.66(8.10)	0.001	0.86(11.65)	0.001
Negative Affect	–0.26 (–3.42)	0.001	–0.48 (–5.07)	0.001	0.26(3.19)	0.002	0.22(2.23)	0.028	–0.37 (–5.05)	0.001	–0.54 (–9.21)	0.001
Self-Esteem	0.16(6.35)	0.001	0.48(8.30)	0.001	–0.08 (–2.41)	0.016	0.02(0.43)	0.671	0.18(7.14)	0.001	0.43(12.54)	0.001

Notes. Authenticity analyses were conducted separately from AES and IES. Previous day’s outcome was controlled for in all analyses. Values are final estimations of fixed effects with robust standard errors.

*IES predicted greater competence after accounting for other needs, and greater positive affect when controlling for negative affect and self-esteem. Relations showed the same pattern when controlling for other needs, except AES did not significantly predict autonomy at Level 1 or Level 2; Relations showed the same pattern when controlling for the other outcomes, except the IES no longer significantly predicted positive mood at 2, and the AES now only marginally predicted greater self-esteem ($B = 0.17$, $SE = 0.09$, $p = .07$).

Level-1 Model: $Outcome_{ij} = \beta_{0j} + \beta_{1j}*(DailyAuthenticExpression_{ij}) + \beta_{2j}*(DailyInauthenticExpression_{ij}) + \beta_{3j}*(PreviousDayOutcome_{ij}) + r_{ij}$

Level-2 Model: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(AuthenticExpressionAcrossDays_j) + \gamma_{02}*(InauthenticExpressionAcrossDays_j) + u_{0j}$

Authenticity

Level-1 Model: $Outcome_{ij} = \beta_{0j} + \beta_{1j}*(DailyAuthenticity_{ij}) + \beta_{2j}*(PreviousDayOutcome_{ij}) + r_{ij}$

Level-2 Model: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(AuthenticityAcrossDays_j) + u_{0j}$

Results showed that at Levels 1 (the daily level) and 2 (across all days), both the AES and intrapersonal authenticity positively predicted all positive outcomes (positive affect, self-esteem, and psychological needs), and negatively related to negative affect. The AES also positively predicted intrapersonal authenticity at both levels. Conversely, the IES was more nuanced in what it predicted. At both levels, the IES negatively predicted intrapersonal authenticity and autonomy satisfaction and positively predicted negative affect. At Level 1, the IES negatively predicted competence satisfaction and self-esteem, but these effects were not present at Level 2. Additionally, at Level 2, the IES positively predicted positive affect, but at Level 1 this effect did not exist. The IES did not relate to relatedness satisfaction at either level.³

5.3. Conclusions

The newly developed and validated scale was used in a diary study to further test its ability to predict well-being both at the daily level (Level 1; contextual) and across the seven days (Level 2; dispositional). Intrapersonal authenticity was also tested to see whether authentic and inauthentic expressions related to internal feelings of authenticity (testing Hypothesis 3). Results revealed that both the AES and intrapersonal authenticity positively predicted all psychological need and well-being outcomes (greater positive affect and self-esteem, and less negative affect) at both levels, supporting Hypothesis 2. The AES also predicted higher intrapersonal authenticity at both levels. For the IES, less intrapersonal authenticity and autonomy satisfaction, as well as higher negative affect, were predicted at both levels, although it showed less consistent links with the other outcome measures at Levels 1 and 2.

6. General discussion

Although research identifies that self-expression is generally beneficial (e.g., [Bargh et al., 2002](#)), it is not always so ([Legate et al., 2012](#)), and the authenticity literature is well-suited to explain those occasions when self-expression is and is not associated with well-being benefits. In the current paper we developed a scale and tested whether interpersonal authentic expressions link to higher intrapersonal experiences that one is being one's true self, and downstream outcomes for psychological need satisfaction and well-being.

First, a scale was developed and validated to empirically test interpersonal authenticity alongside intrapersonal authenticity. Sixty items were generated to measure authentic and inauthentic expression and their factor structure assessed with an EFA in Study 1. Twenty items remained and were further tested in Study 2, with another EFA supporting this scale. To conceptually strengthen this scale, items which were thought to be too repetitive or not indicating verbal expressions specifically were further removed, with eight items remaining. These eight items were tested, and CFA supported the two-factor structure. We also found that our expression scale did not correlate highly to self-censorship, nor did items cross load.

From this process emerged the AIES, which was then tested in two additional studies to determine its concurrent validity. In Study 3, the authentic expression scale (AES) was found to relate to greater psychological need satisfaction and well-being indicators (greater positive

affect, and self-esteem and less negative affect). On the other hand, the inauthentic expression scale (IES) was only found to predict less autonomy satisfaction and more negative affect. This suggests that while authentic expressions are all around positive (by encouraging greater well-being and need satisfaction), inauthentic expression may not be entirely harmful but may still undermine autonomy and generate negative affect.

In Study 4, we employed a diary study design to test the AIES at two levels: the daily level (test of AIES at the context level) and an individual difference with variability shared across days. We tested effects of the AIES on well-being, and findings were similar to those of Study 3: the AES positively predicted psychological need satisfaction, and all well-being outcomes (except negatively predicted negative affect) at both levels, while the IES predicted less autonomy satisfaction and greater negative affect at both levels. A measure of intrapersonal authenticity was also included in Study 4 to test it as an independent variable separate from the AIES. We found that interpersonal authenticity and intrapersonal authenticity are conceptually and operationally distinct. We further found that both constructs related to well-being, with interpersonal authenticity (AIES) also relating to intrapersonal authenticity.

The two empirical studies consistently found that authentic expression is beneficial across the psychological need satisfaction and well-being outcomes assessed, while inauthentic expression only consistently predicted less autonomy and higher negative affect. This supports the claim that acting authentically is psychologically adaptive, leading to greater well-being ([Tesser, 2002](#)). The role of inauthentic expression in negative affect is also identified in previous work, which found that acting in ways discrepant from our actual selves causes emotional distress (e.g., [Leary, 2003](#)). This may be because a person who feels that they are free to express themselves authentically is not responding to a fear that their expression will negatively affect their interpersonal relationship.

Relations with psychological need satisfaction were noteworthy. The AES positively predicted autonomy, relatedness, and competence satisfaction in Study 3. This result was replicated in Study 4, where the AES predicted the three psychological need satisfaction at both the daily level (contextual) and averaged across the seven days (dispositional). This supports our hypothesis that authentic expressions lead to psychological need satisfaction: the behavior of authentic self-expression allows one to express themselves honestly and feel internally autonomous (e.g., [Lynch et al., 2009](#)). Authentic expression also predicted relatedness satisfaction, in line with past research which found that autonomy within close relationships is essential for feeling close and connected to others ([Deci & Ryan, 2014](#)). Competence satisfaction was also predicted by authentic expression, which supports previous assertions that individuals feel more efficacy when their autonomy is simultaneously satisfied (e.g., [Ryan & Deci, 2006](#)).

The IES, on the other hand, was associated with lower autonomy satisfaction in Study 3, an association replicated at both the daily and dispositional level in Study 4. Research has long established a strong link between authenticity and autonomy satisfaction (e.g., [Heppner et al., 2008](#)), but this is the first study to show that both daily and dispositional inauthentic expressions undermines autonomy need satisfaction.

Interestingly, in both Studies 3 and 4, the IES had no effect on relatedness need satisfaction. It seems that, although inauthentically expressing oneself undermines autonomy, it may have no effect on how related one feels to close others. Whereas internal experiences of inauthenticity have been consistently shown to relate to poorer outcomes (e.g., [Erickson & Wharton, 1997](#)), it could be that in interpersonal interactions, it is not always harmful to inauthentically express oneself. It may be that inauthenticity, in some ways, can allow individuals to maintain relations with others while at the same time undermining relational quality – thus leading to non-significance on average. This view is consistent with previous research in the domain of coming out with a concealed stigma, where the confidant's reaction as accepting or

rejecting has been shown to matter more than the act of disclosing itself (D'Augelli, 2002; Chaudoir & Fisher, 2010). Likewise, other work has shown that being selective in social interactions in who one discloses to predicts better mental and physical health (Legate et al., 2017). Taken together, whereas authenticity in social interactions leads to positive outcomes, perhaps inauthenticity is not always harmful depending on how non-accepting the interaction partner is. This supports and expands on recent research, which has also demonstrated that authentic behaviors may be adaptive as they contribute to both costs and benefits of the individual depending on the situation (Hopwood et al., 2021).

It is worth noting a similar, yet distinct construct to authenticity, the construct of self-disclosure, which has also been widely researched. Self-disclosure, or the communication of more confidential personal thoughts and feelings with another person (Jourard, 1971), has been examined as a relationship and mental health enhancing phenomenon (e.g., Frattaroli, 2006; Laurenceau et al., 1998). Although similar, self-disclosure involves the divulging of specific, and usually sensitive, information to another person, while authentic and inauthentic expressions refer to more general and commonplace communications with others. It is often researched in the context of disclosing a stigmatized and concealable (not visible) identity, such as disclosing one's sexual orientation to others (e.g., Meyer, 2003). Like authenticity, self-disclosure is also measured with various scales, including ones that understand self-disclosure as situational or context dependent (e.g., Chelune, 1976) though, like authenticity, there may also be a dispositional tendency toward self-disclosure (e.g., Jourard, 1971). It may be that, when individuals safe to self-disclose, they experience more authenticity and engage in more authentic, and less inauthentic, expression, but this has yet to be investigated. Future research should incorporate self-disclosure with authenticity and both authentic and inauthentic expressions.

Future research should also be directed towards integrating approaches with the goal of building a rich and comprehensive understanding of the various adaptive and non-adaptive forms of expression and exploring whether certain forms of expression are better, or worse, than not expressing at all. For example, along with the AIES, other scales measuring authentic and inauthentic expressions have been developed, such as the Realness Scale (which measures authentic expression) and the Willingness to Self-Censor (which measures, in essence, an unwillingness to express at all). However, they differ in subtle ways that we can explore in future work. For example, in contrast with the AIES, the Realness Scale operationalizes alongside authentic expression the willingness to be upfront and/or controversial, e.g., "I tend to tell others exactly what I think even if it causes conflict". Thus, building on the literature-to-date, researchers could examine questions such as: "what does it entail to authentically express?", "is there such a thing as adaptive inauthentic expression?", and "is willingness to self-censor better if one's expression is predominantly inauthentic?" Examining these, among other questions, will greatly enrich our understanding of this important domain of human interaction.

Some limitations need to be considered. The samples used across studies varied in their age composition but were limited in their gender and racial/ethnic diversity. Additionally, Study 4 had a relatively small sample size due to the nature of the study. It is important to validate the scale in diverse samples to ensure its utility is generalizable across populations. Studies were also correlational in nature. We began to see directionality of relations in Study 4 that controlled for lagged effects of the outcome variable, but experimental studies are needed as a next step to test whether indeed authenticity yields benefits for well-being while inauthenticity yields costs. Longitudinal designs could also be used to examine factors that may encourage authentic and/or inauthentic expression at the dispositional level, such as autonomy support from parents. Furthermore, this study developed and validated a self-report scale to measure authenticity of self-expression; future studies could consider utilizing self-report alongside behavioral observations that one is expressing authentically or inauthentically. In addition, it is important

to note that although evidence for two distinct constructs was found through tests of internal validity, the similarities between authentic and inauthentic self-expressions might make generalizing these findings to other contexts difficult. For example, if authentic and inauthentic expression were being measured using a qualitative perspective, it may be difficult to tell the two apart.

The AIES has implications for research and clinical use. This scale could aid in future research on authenticity by focusing in on verbal expressions and disentangling authentic versus inauthentic self-expressions, something which is especially useful to measure in interpersonal contexts. This distinction of authentic expressions could also be applied to therapy and intervention frameworks. Finally, we also demonstrated the scales' utility at both the contextual and dispositional levels.

CRedit authorship contribution statement

Maya Al-Khouja: Conceptualization, Methodology, Data Curation, Formal Analysis, Writing - Original Draft. **Netta Weinstein:** Conceptualization, Supervision, Formal Analysis, Writing - Review & Editing. **William Ryan:** Formal Analysis, Writing - Review & Editing. **Nicole Legate:** Formal Analysis, Writing - Review & Editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jrp.2022.104191>.

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