Article

Daydreams and the True Self: Daydreaming Styles Are Related to Authenticity

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Abstract
The feeling of knowing and expressing one's true self (i.e., authenticity) is a critical component of well-being. This research examined how patterns of inner mental experience, or daydreaming styles, relate to differences in authenticity. In two online studies, participants completed a series of personality measures, including measures of daydreaming styles and authenticity. Study 1 ($N = 201$) and Study 2 ($N = 203$) generally supported our hypotheses. Positive constructive daydreaming predicted greater feelings of authentic living and lower feelings of true self-alienation, and guilty/fear-of-failure daydreaming predicted lower levels of authentic living and greater feelings of both true self-alienation and acceptance of external influence. Moreover, we found that poor attentional control was a consistent positive predictor of true self-alienation and a weak predictor of acceptance of external influence. These findings offer novel insight into how daydreaming relates to people's subjective sense of knowing and being who they truly are.

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Who am I? What is my essence? Which characteristics define me at my core? Am I being my true self? Questions such as these, and the importance of answering them, have received considerable attention throughout history. Philosophers such as Jean-Jacques Rousseau (1781/1953), for example, emphasized the importance of understanding one's inner self and allowing central aspects of this inner self to guide one's behavior. A similar emphasis on self-understanding and living in ways consistent with one's inner self (authenticity) can be found in classic fiction, movies, music, and the hundreds of contemporary "self-help" books that line popular bookseller shelves. Consistent with the attention that self-understanding and authenticity have received from scholars and lay people alike, research has increasingly focused on elucidating psychological processes that underlie and result from people's feelings of self-knowledge and authentic behavior. This work has largely shown that the subjective feeling of knowing who one truly is and living in ways that are consistent with who one believes she or he truly is positively contributes to psychological well-being (Kernis & Goldman, 2006; Schlegel, Hicks, King, & Arndt, 2011; Wood, Linley, Maltby, Baliousis, & Joseph, 2008).

In the current research, we build upon the theoretical and empirical importance of Jerome Singer's (1966) research and theorizing on daydreaming. Singer's pioneering work quickly emphasized that daydreaming could serve adaptive functions in people's lives and that it could be fruitfully investigated in systematic ways. Indeed, Singer et al.s' work inspired and provided researchers with paradigms to assess distinct patterns of inner experience, or daydreaming styles (Singer, 1975), and to examine how those styles relate to myriad psychological processes (e.g., personality, mental health). These approaches have continued to have substantial impact, particularly in regard to the growing body of research on mindwandering (McMillan, Kaufman, & Singer, 2013). The current research was conducted to build upon this work and address a previously unexplored question about the ways that patterns of inner experience, or daydreaming styles (Singer, 1975), relate to aspects of authenticity and self-knowledge. We provide initial evidence that specific patterns of a ubiquitous mental activity, daydreaming, predict people's feelings of authenticity, and knowledge about who they truly are.

The "True Self" and Authenticity

Kernis and Goldman (2006) broadly defined authenticity as the unrestricted functioning of one's true self within all aspects of life. The true self, from this perspective, reflects the characteristics, traits, and roles that people believe are indicative of who they truly are, regardless of whether those characteristics, traits, and roles are always expressed outwardly or not. Likewise, authenticity, as Kernis and Goldman defined it, reflects people's subjective awareness of who they are and the subjective feeling that they live in ways consistent with who they

really are, regardless of whether they objectively do or not. Wood et al. (2008) provided a more recent but similar conceptualization. They suggested that authenticity comprises three interrelated components: self-alienation, authentic living, and the acceptance of external influence. Self-alienation refers to the subjective experience of feeling disconnected from and unsure about who one really is. Wood et al. posited that feelings of self-alienation result from a subjectively felt disconnect between one's conscious awareness and one's actual experience. Authentic living, on the other hand, encompasses the behavioral dimension of authenticity and reflects the feeling that one is consistently living in accordance with one's core values, emotions, and beliefs. The third component of authenticity, accepting external influence, represents the extent to which one accepts and conforms to the beliefs and expectations of other people. Like Kernis and Goldman (2006) and Wood et al. (2008) argued that individual differences in authenticity can be reliably measured and that these differences are predictive of central facets of psychological well-being.

Indeed, there is now a wide range of research suggesting that authenticity positively predicts psychological health (Kernis & Goldman, 2006). For example, individual differences in authenticity positively predict self-esteem, self-actualization, and positive affect and negatively predict depression, anxiety, and maladaptive coping. People high in authenticity also report greater levels of trait mindfulness (Kernis & Goldman, 2006), which itself has been linked to a variety of positive psychological outcomes (Brown & Ryan, 2003). Furthermore, recent experimental research has revealed that focusing people's attention on their true self-concepts, inducing them to feel sure of who they truly are, and increasing feelings of authenticity can all directly impact psychological functioning. For instance, Arndt, Schimel, Greenberg, and Pyszczynski (2002) found that activating the true self-concept (vs. control conditions) reduced participants' tendencies to self-handicap and conform to the preferences of others. Similarly, inducing people to feel like they know (vs. don't know) who they truly are increases their satisfaction with important life decisions (e.g., choice of academic major; Schlegel, Hicks, Davis, Hirsch, & Smith, 2013) and the perceived meaningfulness of their lives (Schlegel et al., 2011). Finally, Gino, Kouchaki, and Galinsky (2015) recently found that focusing people's attention on times when they were authentic (vs. inauthentic) increased their perceptions that they were morally good and pure. These findings, and others like them, strongly suggest that the true self-concept and authenticity directly contribute to psychological health and positive psychological functioning.

Patterns of Daydreaming

Although much is known about the associations between authenticity and aspects of well-being, questions about the relations between authenticity and other aspects of mental life remain to be examined. In particular, little research

has examined how different patterns of daydreaming might relate to aspects of authenticity. Daydreaming is a normative and ubiquitous mental activity (Killingsworth & Gilbert, 2010; Singer, 1966) that is part of people's ongoing "stream of consciousness" (Singer, 1975). When people daydream, their attention is focused inward and away from external stimuli in the present environment. Although a recent explosion of research on daydreaming, or mindwandering, (Smallwood & Schooler, 2015) primarily emphasizes the processes that affect how much a person "daydreams" during specific tasks that require attention, Singer's (1975) research strongly indicated that reliable individual differences in qualitative aspects of daydreaming exist. Specifically, people can vary on three distinct patterns or styles of daydreaming (Huba, Aneshensel, & Singer, 1981). *Positive constructive daydreaming* is characterized by an optimistic future orientation and reflects thoughts ranging from wishful to intentional and creative. People high in positive constructive daydreaming enjoy their daydreaming and find that it serves positive functions (e.g., planning future actions). Research on imagined interactions, a critical part of daydreaming, specify what some of these functions are. Honeycutt (2003) describes imagined interactions as the joint processes of social cognition and mental imagery during which individuals imagine conversations with others for a variety of different reasons. As daydreaming involves individuals' ongoing "stream of consciousness" (Singer, 1975), people's imagined conversations constitute a critical part of daydreaming and provide insight into the qualitative differences in daydreaming styles. For example, research focused on imagined interactions has identified the purposes or functions of imagined interactions as relational maintenance, conflict linkage, rehearsal, self-understanding, catharsis, and compensation (Honeycutt, 2010). Certainly, these purposes (e.g., self-understanding) constitute the positive functioning indicative of positive constructive daydreaming. In contrast to positive constructive daydreaming, *guilty/fear-of-failure daydreaming* is oriented around negative emotions and includes thoughts marked with anguished self-examination and fears of failure. People high in guilty/fear-of-failure daydreaming report that their daydreams are often focused on negative events and concerns about not living up to important standards. Finally, *poor attentional control* reflects differences in the inability to focus on either the present task or one's internal stream of consciousness. People high in poor attentional control mindwander frequently and report being easily distracted.

Research focused on individual differences in daydreaming has revealed that qualitative differences in daydreaming are predictive of meaningful psychological constructs. For example, Honeycutt, Pence, and Gearhart (2013) found that functions of imagined interactions described above correlate with the broad traits emphasized in the "Big Five" model of personality. For example, imagined interactions that are cathartic and help maintain relationships correlate with neuroticism and a lack of conscientiousness. This study, therefore, demonstrates that aspects of personality are reliably linked to aspects of people's daydreams.

Similarly and of particular importance to the current study, Singer's core day-dreaming styles show unique correlations with broad aspects of personality (Zhiyan & Singer, 1997). Positive constructive daydreaming positively correlates with openness to experience, guilty/fear-of-failure daydreaming positively correlates with neuroticism, and poor attentional control negatively correlates with conscientiousness. These patterns of correlations are, of course, consistent with the conceptualizations of the three daydreaming styles put forth by Singer. For instance, the notion that guilty/fear-of-failure daydreaming is focused on anguished self-examination fits well with the observed correlation between guilty/fear-of-failure daydreaming and heightened negative emotionality (i.e., neuroticism). In addition, as might be expected, guilty/fear-of-failure daydreaming is positively associated with self-criticism (Golding & Singer, 1983) and sleep disturbances (Starker & Hasenfeld, 1976). More broadly, research has linked patterns of inner experience to outcomes such as television viewing habits (Schallow & McIlwraith, 1986), perfectionism (Flett, Hewitt, Blankstein, & Gray, 1998), depression (Golding & Singer, 1983), and, more recently, the enjoyment that people get out of entertaining themselves with their own thoughts (Wilson et al., 2014). Overall, the diversity of these findings highlights the relevance of individual differences in qualitative aspects of daydreaming for a wide range of psychological phenomena and aspects of personality.

The Present Research

No existing research (to our knowledge) has reported on the links between daydreaming styles and aspects of authenticity. We believe that this is a notable gap given the emphasis that many classic "self" scholars placed on the links between "streams of consciousness" and our understanding of who we are (James, 1890), as well as the research indicating that people generally believe that inner experiences (thoughts, feelings, emotions, etc.) best represent who they truly are (Andersen & Ross, 1984; Johnson, Robinson, & Mitchell, 2004). If people's inner thoughts are believed to be most indicative of who they truly are, then distinct patterns of inner experience may well relate to their feelings of authentic living and true self-knowledge. Do qualitatively different forms of inner mental life reliably relate to the degree to which people subjectively experience an awareness and expression of who they truly are? The current research was conducted to provide initial answers to this question.

We made several specific hypotheses. First, future-oriented daydreaming has been functionally linked to the planning of self-relevant future goals (Baird, Smallwood, & Schooler, 2011), which suggests that the tendency to engage in positive constructive daydreaming may facilitate future behaviors that are consistent with one's core beliefs and values. Honeycutt (2003) discusses future daydreaming in terms of proactivity as an attribute of imagined interactions in which individuals use verbal and nonverbal imagery to forecast encounters

before they occur. Proactivity is correlated with numerous personality traits including neuroticism and openness (Honeycutt et al., 2013). He has also found that positivity as measured in terms of positive versus negative valence associated with having this type of daydreaming is associated with low neuroticism. Given the research on imagined interactions, this might translate into patterns of inner experience that give rise to authentic living and feelings of being connected to one's innermost values and aspirations. Indeed, a major function of imagined interactions is self-understanding which "are used to gain a deeper understanding of the individual's attitudes and beliefs" (Honeycutt et al., 2013, p. 275). We, therefore, predicted that individual differences in positive constructive daydreaming would positively predict feelings of authentic living and negatively predict the feeling of being disconnected from who one really is (i.e., true self-alienation).

Next, guilty/fear-of-failure daydreaming is conceptually and empirically associated with exaggerated concerns about negative self-evaluations. Research on authenticity has consistently shown that authentic people possess a more secure form of self-regard and are thus generally protected from the harmful psychological consequences of negative self-relevant experiences (Kernis, 2003). We thus predicted that guilty/fear-of-failure daydreaming would negatively predict authentic living and positively predict feelings of true self-alienation. Finally, Wood et al. (2008) argued that true self-alienation reflects a subjectively felt disconnect from conscious awareness and experience. This experience might be especially likely among individuals who have difficulty maintaining attentional focus in the sense that mindwandering episodes are, by definition, characterized by a disconnect between conscious thought and the present environment (Barron, Riby, Greer, & Smallwood, 2011). We consequently predicted that individual differences in poor attentional control would positively predict feelings of true self-alienation.

We tested these predictions[1] in two online studies. Participants completed a battery of personality measures in each study, including the critical measures of daydreaming styles (Huba et al., 1981) and aspects of authenticity (Wood et al., 2008). We also measured other individual differences that we deemed valuable for addressing alternative explanations (e.g., self-esteem, trait anxiety) and shedding additional insight into the links between authenticity and aspects of daydreaming beyond daydreaming styles (i.e., the self-reported frequency of daydreaming).[2]

Study 1

Participants

Adult participants ($N = 201$; 117 females, 84 males) were recruited from Amazon MTurk (Buhrmester, Kwang, & Gosling, 2011) and compensated $0.50 for

Table 1. Descriptive Statistics for Primary Variables in Studies 1 and 2.

Measure	Study 1 M	Study 1 SD	Study 1 α	Study 2 M	Study 2 SD	Study 2 α
(1) Positive constructive daydreaming	4.77	1.03	.91	4.61	0.89	.88
(2) Guilt/fear-of-failure daydreaming	2.98	0.99	.86	3.02	1.01	.87
(3) Poor attentional control	4.06	1.06	.89	4.00	1.06	.89
(4) Authentic living	5.68	0.98	.83	5.54	1.07	.88
(5) True self-alienation	2.76	1.52	.90	2.90	1.48	.89
(6) Acceptance of external influence	3.25	1.25	.86	3.34	1.39	.89
(7) Self-esteem	4.46	1.83	n/a	4.69	1.61	n/a
(8) Trait anxiety	2.93	1.41	.91	2.77	1.24	.89
(9) Daydreaming frequency	n/a	n/a	n/a	3.31	0.73	.53

completing this online study. This study was approved by the Montana State University Institutional Review Board. Participants ranged in age from 18 to 73 years old ($M = 36.30$, $SD = 13.78$) and were predominately Caucasian (83.1%; Black/African American, 7.5%; all other races < 3.0%).

Procedure and Materials

The MTURK advertisement for the study read that the study was "part of a project investigating the relationship between personality traits and the nature of people's mental activity." Participants accessed the study by following an external link posted in the MTurk listing and completed all the materials in the same order. Descriptive statistics for the critical measures in both studies are presented in Table 1. Alphas for the various measures are also reported in Table 1 and were stable.

Authentic personality. We utilized the Authentic Personality Scale (Wood et al., 2008) to measure individual differences in authenticity. This measure assesses the three distinct aspects of authenticity described in the Introduction section: true self-alienation, authentic living, and acceptance of external influence. Example items from each subscale include: "I feel out of touch with the real me" (true self-alienation), "I am true to myself in most situations" (authentic living), and "I am strongly influenced by the opinions of others" (acceptance of external influence). Responses to each item were made on 1 (*not at all true of me*) to 7 (*very true of me*) scales and were averaged into separate true self-alienation, authentic living, and acceptance of external influence composites.

Trait anxiety. We created a six-item short form of the Spielberger (1983) State-Trait Anxiety Inventory to measure individual differences in trait anxiety.

Participants were instructed to indicate how they generally feel most of the time (rather than how they are feeling in the moment) with respect to feeling calm, tense, upset, relaxed, content, and worried. Responses to each item were made on 1 (*not at all true of me*) to 7 (*very true of me*) scales. The measure was modeled after a state anxiety measure developed by Marteau and Bekker (1992).

Self-esteem. Self-esteem was assessed utilizing the Single-Item Self-Esteem Scale (Robins, Hendin, & Trzesniewski, 2001). Participants indicated the truthfulness of the statement, "I have high self-esteem" on a 1 (*not at all true of me*) to 7 (*very true of me*) scale. Despite being only one item, the Single-Item Self-Esteem Scale is supported by strong evidence of its reliability and validity.

Patterns of inner experience. We utilized the 45-item Short Imaginal Processes Inventory (Huba et al., 1981; Huba, Singer, Aneshensel, & Antrobus, 1982; Huba & Tanaka, 1983) to capture differences in three distinct patterns of inner experience detailed in the Introduction section: positive constructive daydreaming, guilt and fear-of-failure daydreaming, and poor attentional control. Positive constructive daydreaming is assessed with items such as "My fantasies usually provide me with pleasant thoughts" and "My daydreams are often stimulating and rewarding." Guilt and fear-of-failure daydreaming is assessed with items such as "In my daydreams, I am always afraid of being caught doing something wrong" and "My daydreams often contain depressing events which upset me." Poor attentional control is assessed with items such as "I find that easily lose interest in things that I have to do" and "I am the kind of person whose thoughts often wander." Participants responded to all items on a 1 (*absolutely untrue*) to 7 (*absolutely true*) scale. Responses were averaged to form separate positive constructive, guilt and fear-of-failure, and poor attentional control composites.

Study 1 Results

Primary analyses. We conducted a series of multiple regression analyses to test our primary hypotheses. These analyses were conducted by entering positive constructive daydreaming, guilty/fear-of-failure daydreaming, and poor attentional control as simultaneous predictors of each aspect of authenticity in three separate regression analyses. The full results of these regression analyses for both studies are presented in Table 2 (see Table 3 for a presentation of the bivariate correlations).

Authentic living. As depicted in Table 2, positive constructive daydreaming was a unique positive predictor of authentic living ($\beta = .34$, $p < .001$), guilty/fear-of-failure daydreaming was a unique negative predictor of authentic living

Table 2. Primary Results From Regression Analyses Predicting Aspects of Authenticity From Daydreaming Styles.

Variable	Authentic living				True self-alienation				Acceptance external influence			
	B	SE B	95% CI	β	B	SE B	95% CI	β	B	SE B	95% CI	β
Positive constructive	.323**	.058	.21/.44	.339**	−.425**	.078	−.58/−.27	−.288**	−.003	.078	−.16/.15	−.003
Guilty/fear-of-failure	−.383**	.067	−.52/−.25	−.386**	.771**	.090	.59/.95	.502**	.530**	.090	.35/.71	.417**
Poor attention	.022	.062	−.10/.15	.024	.209*	.083	.05/.37	.146*	.084	.083	−.08/.25	.071
Positive constructive	.259**	.077	.11/.41	.214**	−.232*	.095	−.42/−.05	−.139*	−.129	.098	−.32/.07	−.082
Guilty/fear-of-failure	−.406**	.072	−.55/−.27	−.382**	.696**	.088	.52/.87	.474**	.579**	.091	.40/.76	.419**
Poor attention	−.010	.068	−.14/.12	−.010	.326**	.083	.16/.49	.234**	.172*	.086	.00/.34	.131*

Note. Statistics above the double line are from Study 1. Statistics below the double line are from Study 2.
**p < .01; *p < .05.

Table 3. Bivariate Correlations Between Primary Variables in Studies 1 and 2.

Measure	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Positive constructive daydreaming	–	–.108	–.069	.379**	–.352**	–.053	.377**	–.313**
(2) Guilt/fear-of-failure daydreaming	.046	–	.435**	–.412**	.597**	.449**	–.272**	.490**
(3) Poor attentional control	.050	.309**	–	–.167*	.385**	.253**	–.380**	.410**
(4) Authentic living	.196**	–.375**	–.117	–	–.422**	–.411**	.370**	–.409**
(5) True self-alienation	–.106	.540**	.374**	–.468**	–	.482**	–.441**	.556**
(6) Acceptance of external influence	–.056	.455**	.256**	–.351**	.595**	–	–.206**	.262**
(7) Self-esteem	.086	–.120	–.351**	.258**	–.300**	–.278**	–	–.574**
(8) Trait anxiety	–.066	.419**	.334**	–.312**	.358**	.246**	–.512**	–
(9) Daydreaming frequency	.003	–.055	–.031	.019	–.031	–.042	.030	–.027

Note. Correlations above the diagonal are from Study 1. Correlations below the diagonal are from Study 2. Daydreaming frequency was not assessed in Study 1.

($\beta = -.39$, $p < .001$), and poor attentional control was unrelated to authentic living ($\beta = .02$, $p = .718$).

True self-alienation. As depicted in Table 2, positive constructive daydreaming was a unique negative predictor of true self-alienation ($\beta = -.29$, $p < .001$), whereas guilty/fear-of-failure daydreaming ($\beta = .50$, $p < .001$) and poor attentional control ($\beta = .15$, $p = .013$) were unique positive predictors of true self-alienation.

Acceptance of external influence. As depicted in Table 2, positive constructive daydreaming ($\beta = .00$, $p = .965$) and poor attentional control ($\beta = .07$, $p = .316$) were unrelated to acceptance of external influence. Guilty/fear-of-failure daydreaming was a unique positive predictor of acceptance of external influence ($\beta = .42$, $p < .001$).

Ancillary analyses. We also conducted secondary analyses to establish the robustness of these effects above and beyond other potentially important third variables. In particular, we conducted analyses that controlled for individual differences in self-esteem and anxiety. Both self-esteem and anxiety are associated with aspects of authenticity (Wood et al., 2008), and research linking negative self-views (e.g., depression; Golding & Singer, 1983) and anxious dispositions (e.g., neuroticism; Zhiyan & Singer, 1997) to daydreaming styles suggests that self-esteem and anxiety might potentially explain the relationships between authenticity and daydreaming styles detected in our primary analyses.

Can self-esteem account for the findings?. Our first set of secondary analyses tested whether the primary results were independent of differences in self-esteem. We conducted multiple regression analyses identical to those above but also included self-esteem as a predictor of each aspect of authenticity. The inclusion of self-esteem only eliminated the relationship between poor attentional control and true self-alienation ($\beta = .09$, $p = .155$). All other significant effects reported for Study 1 remained significant when self-esteem was statistically accounted for.

Can anxiety account for the findings?. We conducted an identical set of analyses that controlled for the effects of anxiety. As with self-esteem, the only effect to be altered by the inclusion of anxiety in the model was the relationship between poor attentional control and true self-alienation in Study 1 ($\beta = .09$, $p = .134$). All other effects reported in our primary analyses remained significant when controlling for anxiety.

Does age moderate any of these effects?. We also conducted a series of exploratory analyses to test for potential interactions between daydreaming styles and age. Separate analyses were conducted on each aspect of authenticity.

First, we entered the main effects of age, positive constructive daydreaming, guilty/fear-of-failure daydreaming, and poor attentional control as simultaneous predictors of authentic living in Step 1 of a hierarchical regression. We entered all two-way interactions involving age (e.g., Positive Constructive Daydreaming × Age) in Step 2. There was a significant Positive Constructive Daydreaming × Age interaction on authentic living ($b = -.01$, $SE = .004$, $t = 2.59$, $p = .010$; all other interaction $ps > .345$), such that the relationship between positive constructive daydreaming and authentic living was stronger in younger ($b = .50$, $p < .001$), relative to older ($b = .22$, $p = .001$), individuals.

Identical analyses were also conducted on true self-alienation. No significant interactions emerged (all $ps > .128$).

Identical analyses were also conducted on acceptance of external influence. No significant interactions were detected ($ps > .316$).

Does gender moderate any of these effects?. Parallel regression analyses replacing age with gender were conducted to explore any potential effects involving participants' gender. There was a marginally significant Gender × Poor Attentional Control interaction on authentic living ($b = -.25$, $SE = .13$, $t = 1.91$, $p = .057$). However, poor attentional control was unrelated to authentic living for both males ($b = -.19$, $p = .086$) and females ($b = .06$, $p = .392$). No other significant interactions involving gender as a predictor of authentic living emerged in either study ($ps > .195$).

No significant interactions involving gender and daydreaming styles emerged on true self-alienation ($ps > .113$). Additionally, there was no significant gender by daydreaming style interactions on acceptance of external influence ($ps > .237$).

Study 1 Brief Discussion

People who reported that their daydreams were generally positive and future-oriented also reported greater levels of authentic living and lower levels of true self-alienation. The effect of positive constructive daydreaming on authentic living was stronger for younger (vs. older) adults, although it was significantly different from zero across the age spectrum. This suggests a reliable link between positive-constructive patterns of inner experience and greater feelings of authenticity. In contrast, daydreams characterized by self-criticism and guilt uniquely predicted lower levels of authentic living and greater levels of true self-alienation and acceptance of external influence. This suggests that patterns of inner experience characterized by guilt and fear-of-failure reliably predict deficits in authenticity. Finally, individual differences in self-reported difficulties maintaining control of attention positively predicted feelings of true self-alienation, but this effect was eliminated when self-esteem and anxiety were statistically accounted for. Overall, these patterns of results supported our primary

hypotheses and indicate that feelings of authenticity can be partially accounted for by individual differences in the ways that people daydream. However, given emerging emphases on replication in psychological science, we conducted a second study to replicate these effects and provide stronger evidence for their robustness.

Study 2

Methods

Participants. Adult participants ($N = 203$; 109 females, 93 males, 1 unreported) were recruited from Amazon MTurk and compensated $0.50 for completing this online study. Participants ranged in age from 18 to 78 years old ($M = 36.75$, $SD = 14.34$) and were predominately Caucasian (80.3%; Black/African American, 6.4%%; Multiple Races, 4.4%; Asian, 3.9%; all other races < 3.0%). This study was approved by the Montana State University Institutional Review Board.

Procedure and materials. The procedure was nearly identical to that of Study 1. In this study, however, all materials were presented randomly to participants. In addition, we included a measure of daydreaming frequency to assess whether differences in the frequency of daydreaming episodes relate to aspects of authenticity.

Authentic personality. As in Study 1, we utilized the Wood et al. (2008) authentic personality scale to assess individual differences in authentic living, true self-alienation, and acceptance of external influence.

Trait anxiety. The measure of trait anxiety utilized in Study 1 was included in Study 2.

Self-esteem. The single item self-esteem index utilized in Study 1 was included in Study 2.

Patterns of inner experience. As in Study 1, we utilized the short imaginal processes inventory to capture individual differences in positive constructive daydreaming, guilt and fear-of-failure daydreaming, and poor attentional control.

Daydreaming frequency. In addition to different qualitative patterns of daydreaming (e.g., positive constructive daydreaming), we also assessed individual differences in how frequently individuals daydream in their everyday lives. To do so, we utilized the 12-item Daydreaming Frequency Scale (Giambra, 1993).

Participants were instructed to indicate the amount of time spent daydreaming both in general throughout the day and in more specific scenarios (such as during free time or at work) on a 5-point Likert-scale. The wording of the response options differ among the items, but the first option always corresponds to lower levels of daydreaming.

Study 2 Results

Primary analyses. We conducted a series of multiple regression analyses identical to those conducted in Study 1.

   Authentic living. The Study 1 results for authentic living were replicated in Study 2. Positive constructive daydreaming positively predicted authentic living ($\beta = .21$, $p = .001$), guilty/fear-of-failure daydreaming negatively predicted authentic living ($\beta = -.38$, $p < .001$), and poor attentional control was unrelated to authentic living ($\beta = -.01$, $p = .884$).

   True self-alienation. The Study 1 results for true self-alienation were replicated in Study 2. Positive constructive daydreaming negatively predicted true self-alienation ($\beta = -.14$, $p = .015$). Guilty/fear-of-failure daydreaming ($\beta = .47$, $p < .001$) and poor attentional control ($\beta = .23$, $p < .001$) positively predicted true self-alienation.

   Acceptance of external influence. The Study 1 results for acceptance of external influence were generally replicated in Study 2. Positive constructive daydreaming was unrelated to acceptance of external influence ($\beta = -.08$, $p = .191$), but guilty/fear-of-failure daydreaming emerged as a unique positive predictor of acceptance of external influence ($\beta = .42$, $p < .001$). However, unlike in Study 1, poor attentional control was a significant, albeit weak, positive predictor of acceptance of external influence ($\beta = .13$, $p = .047$).

Ancillary analyses. We also conducted a series of secondary analyses controlling for self-esteem and anxiety (as we did in Study 1).

   Can self-esteem account for the findings?. In Study 2, including self-esteem as a predictor in each of the regression analyses only eliminated the relationship between poor attentional control and acceptance of external influence ($\beta = .06$, $p = .385$). Controlling for self-esteem in Study 2 did not eliminate the effect of poor attentional control on true self-alienation (as it did in Study 1).

   Can anxiety account for the findings?. We conducted an identical set of analyses that controlled for the effects of anxiety. The results paralleled those that were obtained when self-esteem was statistically accounted for. The only effects

that were altered by the inclusion of anxiety in the model was the relationship between poor attentional control and acceptance of external influence ($\beta = .13$, $p = .067$). Controlling for anxiety did not eliminate the effect of poor attentional control on true self-alienation (as it did in Study 1).

Do differences in the frequency of daydreaming predict aspects of authenticity?. Although our primary focus was on the relationships between distinct daydreaming styles and aspects of authenticity, we included a measure of self-reported daydreaming frequency (i.e., how frequently people report day-dreaming) in Study 2. This provided an opportunity to assess whether the frequency of daydreaming relates to aspects of authenticity. Daydreaming frequency was not correlated with any aspect of authenticity, $|rs| < .04$, $ps > .549$. This suggests that, although qualitative aspects of daydreaming relate to authenticity, the quantity of daydreaming does not.

Does age moderate any of these effects?. As in Study 1, we also conducted a series of exploratory analyses to test for potential interactions between day-dreaming styles and age.

For authentic living, a marginally significant Positive Constructive Daydreaming × Age interaction identical to that of Study 1 emerged in Study 2 ($b = -.01$, $SE = .005$, $t = 1.86$, $p = .065$). The positive relationship between positive constructive daydreaming and authentic living was marginally stronger for younger ($b = .42$, $p < .001$), relative to older ($b = .16$, $p = .098$), participants. No other interactions approached significance ($ps > .900$).

There was a significant Guilty/Fear-of-Failure × Age interaction on true self-alienation in Study 2 ($b = -.01$, $SE = .007$, $t = 2.67$, $p = .008$). The relationship between guilty/fear-of-failure of daydreaming and true self-alienation was stronger in younger ($b = .87$, $p < .001$), versus older ($b = .35$, $p = .028$), individuals. Study 2 also revealed a marginally significant Positive Constructive Daydreaming × Age interaction on true self-alienation ($b = .02$, $p = .073$) that again hinted at a stronger effect of daydreaming on true self-alienation among younger individuals. However, this interaction was not significant in Study 1. The interaction between age and poor attentional control on true self-alienation was not significant ($p = .206$).

For acceptance of external influence, no significant interactions were detected ($ps > .223$).

Does gender moderate any of these effects?. Parallel regression analyses replacing age with gender were conducted to explore any potential effects involving participants' gender. There were no significant interactions involving gender as a predictor of authentic living ($ps > .167$).

Only one significant interaction involving gender and daydreaming styles emerged on true self-alienation. We observed a significant Gender × Poor

Attentional Control interaction on true self-alienation ($b = .38$, $SE = .18$, $t = 2.14$, $p = .034$). Poor attentional control was a significant positive predictor of true self-alienation for males ($b = .58$, $p < .001$), but not females ($b = .20$, $p = .059$). However, as with the marginal interaction detected on authentic living in Study 2 described earlier, this interaction effect was not significant in Study 1 ($b = .05$, $p = .780$). No other interactions involving gender as a predictor of true self-alienation emerged ($ps > .433$).

No significant gender by daydreaming style interactions emerged on acceptance of external influence ($ps > .147$).

Study 2 Brief Discussion

The primary results of Study 2 replicated the primary results of Study 1. We again found that positive constructive daydreaming uniquely predicted greater feelings of authentic living and lower feelings of true self-alienation. In contrast, guilty/fear-of-failure daydreaming uniquely predicted lower levels of authentic living and greater feelings of true self-alienation and acceptance of external influence. Moreover, we found that poor attentional control was a positive predictor of true self-alienation and acceptance of external influence. The effect of poor attentional control on acceptance of external influence was not observed in Study 1 and was eliminated when anxiety and self-esteem were statistically accounted for. In contrast, whereas the effect of poor attentional control on true self-alienation was eliminated when controlling for self-esteem and anxiety in Study 1, the effect remained significant when controlling for self-esteem and anxiety in Study 2. Finally, although several interactions between aspects of daydreaming and gender and age emerged, only the interaction between positive constructive daydreaming and age predicting authentic living was consistent across both studies. The presence of this interaction suggests that positive constructive daydreaming may be a stronger positive predictor of authentic living among younger individuals, although it is important to note that this interaction effect was only marginally significant in Study 2. Nevertheless, the results of Study 2 provide consistent support for the unique relations between patterns of inner experience and individual differences in aspects of authenticity.

General Discussion

Overall, these results have several implications. They demonstrate, for the first time, that individual differences in qualitative aspects of people's "streams of consciousness" directly relate to their subjective sense that they are aware of and behave in ways consistent with who they truly are. In this way, the current findings connect to other research documenting the centrality of people's inner experiences for true self-conceptions. For example, Andersen and Ross (1984)

reported evidence that people prioritize their inner states (thoughts, emotions) as most essential for understanding who they truly are. Similarly, research drawn from perspectives on metaphoric social cognition (Landau, Meier, & Keefer, 2010) has revealed that people may conceptualize the true self as an integral core that resides inside people waiting to be discovered (Landau et al., 2011; Schlegel, Vess, & Arndt, 2012). Our findings complement this work by revealing that qualitative differences in people's inner experiences systematically relate to their perceived knowledge about who they are and how frequently they express who they truly are in everyday life. Inner thoughts that are characterized by a future orientation, positivity, and intentionality (positive-constructive day-dreaming) were consistently linked to greater feelings of living in accord with one's true self (authentic living) and lower feelings of being disconnected from or unaware of who one truly is (true self-alienation). In contrast, patterns of inner thought characterized by negative self-evaluations and concerns (guilty/fear-of-failure daydreaming) were negatively linked to authentic living and positively linked to true self-alienation and acceptance of external influence, findings that align quite nicely with earlier work documenting the link between authenticity and the security of people's self-views (Kernis, 2003). Finally, and generally consistent with Wood et al.'s (2008) articulation that true self-alienation reflects a disconnect between conscious awareness and actual experience, difficulties controlling attentional focus were reliably associated with greater feelings of being alienated from one's core self. It is important to note, of course, that these relationships were largely independent from trait anxiety and individual differences in the valence of people's self-views (i.e., self-esteem). Thus, our findings lend distinct support for the idea that people's inner mental experiences—their streams of consciousness—are inherently linked to how they come to know and express their conceptions of who they truly are.

The present findings also contribute to the emerging recognition that day-dreaming can be associated with positive psychological consequences. Much of this recognition has come from contemporary research on mindwandering, which focuses on people's propensities to disengage mentally from focal tasks and direct attention to inner thoughts removed from the present moment (Smallwood & Schooler, 2015). A large portion of mindwandering research has revealed that letting one's conscious attention turn inward and away from present experience dramatically impairs performance on important tasks, ranging from driving (Yanko & Spalek, 2014) to reading comprehension (McVay & Kane, 2012). However, mindwandering can foster positive benefits such as enhanced creativity (Baird et al., 2012) and self-control (Smallwood, Ruby, & Singer, 2013). The existence of such positive benefits has led some to call for a more "balanced perspective" on mindwandering and daydreaming that high-lights its potential for positive functions (McMillan et al., 2013; Smallwood & Andrews-Hanna, 2013). Our findings fit well with such a view by demonstrating that higher levels of positive constructive daydreaming consistently predicted

greater feelings of authenticity and lower feelings of true self-alienation. This provides initial evidence that some forms of mindwandering or daydreaming are linked to a central facet of psychological health and well-being (i.e., authenticity) and will hopefully inspire continued efforts to elucidate positive outcomes that are linked to the wandering mind.

At the same time, however, our findings also speak to some of the problems that might arise from fragmented streams of consciousness. People who reported difficulty maintaining attentional control also reported greater feelings of not knowing who they truly are. This suggests that disrupted or erratic streams of consciousness may distort perceived self-knowledge and, due to the ways that true self-knowledge relates to psychological health (Kernis & Goldman, 2006), may ultimately contribute to mental illness. Indeed, some have argued that mindwandering that consists of "traumatic intrusions" is an important aspect of trauma related psychopathology (Takarangi, Strange, & Lindsay, 2014). Posttraumatic stress disorder (PTSD), in particular, is characterized by intrusions to one's stream of consciousness that people are not always aware of (Takarangi et al., 2014). Because PTSD is also associated with disruptions to the self-concept (Epstein, 1991), our findings may have implications for understanding links between streams of consciousness, authenticity, and mental illness. More research is needed to directly test such a possibility.

One unexpected finding that emerged in our studies was the interaction between age and positive constructive daydreaming on authentic living. That this interaction was only marginally significant in Study 2 should introduce some caution when interpreting its potential importance. Nevertheless, there does seem to be some suggestive evidence that positive constructive daydreaming may be less relevant to the feeling of living in accord with one's true self among older individuals. Why might this be the case? One possibility could be that daydreams about future plans and fantasies may simply be less important to older adults. Socioemotional Selectivity Theory (Carstensen, Isaacowitz, & Charles, 1999) posits that older adults view time as being limited and that this perspective causes them to prioritize the present moment over future-oriented goals. Consistent with such views, there is considerable research indicating that older adults are more present focused than younger individuals (Carstensen et al., 1999). Older adults' diminished concern over future plans, and goals may, therefore, explain why individual differences in daydreaming about future goals are less relevant to their feelings of authenticity. Of course, more evidence will be needed to support such an interpretation.

Future research will also be needed to address an important and obvious limitation of the current studies. Our goal in the present work was to provide an initial test of whether qualitative differences in patterns of inner experience relate to individual differences in authenticity or not. Our cross-sectional approach was, therefore, appropriate for our initial aims, and we took steps to rule out potentially important third variable explanations (e.g., self-esteem,

anxiety). Moving forward, however, research will be needed to elucidate the direction of causality that underlies these associations. This might be a difficult chore. We are aware of no existing paradigms for experimentally manipulating the distinct patterns of inner experience that are captured by the valid and reliable individual difference measure that we utilized in the present research (i.e., the Short-Imaginal Process Inventory; Huba et al., 1981). This suggests that a longitudinal design that can delineate temporal precedence could be a reasonable starting point for future research efforts. The robust cross-sectional associations that we detected in the current research will no doubt serve as a profitable foundation for such efforts.

In closing, the current research speaks to the significant associations between patterns of inner experience and people's subjective sense that they know and express who they truly are. In this way, the work echoes the classic sentiments voiced by James (1890) that people's inner experiences, or streams of consciousness, underlie their understanding of who they are and what they do. We are hopeful that our results will inspire continued efforts to not only consider the specific ways that daydreaming relates to authenticity, but to more generally appreciate how distinct patterns of inner experiences may contribute to positive psychological outcomes.

Declaration of Conflicting Interests

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Notes

1. Our primary predictions were made based on prior theory and research. We made no specific predictions about how acceptance of external influence would relate to daydreaming styles because the theories that guided our work primarily emphasize authentic living and feelings of knowing one's true self. We nevertheless expected that the patterns of relationships between daydreaming styles and acceptance of external influence would closely follow the patterns observed for true self-alienation.
2. Our description of the methods focuses squarely on the measures that are critical for our hypotheses. A full presentation of all the materials included in both studies can be found in the supplementary materials.

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