The Interplay of Theory and Measurement in the Structure of Identity Disturbance

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Impairments in identity, collectively called *identity disturbance*, are considered core to psychopathology, with identity disturbance contributing to emotional and interpersonal problems across psychiatric diagnoses. Despite its centrality in theories of personality and psychopathology, there is remarkably little empirical research on mechanisms of identity disturbance. The present project examines the interplay between contemporary theory and assessments of identity disturbance, with the goal of elucidating a clear structure of identity disturbance to advance both theory and measurement. Towards this aim, the present project a) investigates the factor structure of identity disturbance in existing self-report measures and b) examines relationships between identity disturbance and closely related constructs. The present project assesses responses from 632 undergraduates to seventeen commonly used identity functioning self-report measures. In a series of exploratory factor analyses, we identified four factors of Identity Disturbance (Self-Alienation, Susceptibility to External Influence, Self-Dysregulation, and Contingent Self-Esteem) and three factors of Identity Clarity (Self-Consistency, Reflective Functioning, and Authentic Living). In a series of exploratory structural equation models, we examined the relationship between emergent factors and personality, emotion regulation, and values and problems in interpersonal relationships.

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Preface

This project is the culmination of my time at the University of Pittsburgh, prior to my move to the University of Michigan. My heartfelt appreciation goes to my colleagues and friends in Pittsburgh. For their assistance with this project from conception to analytic interpretation, acknowledgements are due to my graduate advisor, Dr. Aidan Wright; my undergraduate research advisors (who relentlessly encouraged my foray into identity research), Chelsea Boccagno and Dr. Jill Hooley; my research assistant on this project, Nicole El Hayek; and my committee members, Dr. Craig Rodriguez-Seijas, Dr. Mandy Forest, and Dr. Sophie Choukas-Bradley.

1.0 Introduction

Identity is conceptualized as a key component to personality and mental health. Impairments in identity, collectively called *identity disturbance*, are considered core to psychopathology (Klimstra & Denissen, 2017), with identity disturbance contributing to emotional and interpersonal problems across psychiatric diagnoses (Leary & Baumeister, 2000; Neacsiu et al., 2015; Shalala et al., 2020). Despite its centrality in theories of personality and psychopathology, there is remarkably little empirical research on mechanisms of identity disturbance. This is partly due to longstanding conceptual and methodological issues translating a wealth of theory into an operationalizable construct that can be measured clearly, reliably, and dimensionally (Adler & Clark, 2019; Westen, 1992). The present project examines the interplay between contemporary theory and assessments of identity disturbance, with the goal of elucidating a clear structure of identity disturbance to advance both theory and measurement. Towards this aim, the present project a) investigates the factor structure of identity disturbance in existing self-report measures and b) examines relationships between identity disturbance and closely related constructs of personality, emotion regulation, and values and problems in interpersonal relationships.

1.1 Identity Disturbance Theory and Measurement

Most broadly, *identity* represents the ability to internally answer the question, "Who am I?", and *identity disturbance* refers to the inability to satisfactorily answer that question. The

question “who am I” has two primary assumptions: (1) that there is an “I” to describe and (2) that there is content describing “me” that could be used to answer the question (James, 1890). Identity disturbance involves violations in these assumptions, with patients feeling like there is either no singular “I” that is experiencing the world (e.g., “I don’t exist;” Jørgensen & Boye, 2022, p. 51) and/or there is no clear content about “me” (e.g., “I don’t feel that I can wholeheartedly say one single thing about who I am;” Jørgensen & Boye, 2022, p. 50).

The question “who am I” has a third implicit assumption, which is that there is a singular identity that is experienced as consistent over time. The full question is not “who am I right at this moment” but “who am I *generally*, abstracted across contexts and over time.” However, robust research demonstrates that individuals are made up of multiple, distinct versions of themselves that they regularly switch between based on social and emotional cues (McConnell, 2011; Shavelson et al., 1976). Identity (often referred to in this context as ‘ego-identity’) is the experience of all these context-dependent selves as one integrated person (Erikson, 1963). A well-functioning identity allows for a sense of personal continuity across situations and over time (Erikson, 1959). In contrast, identity disturbance is the experience of multiple selves as fragmented parts, without forming an overarching and cohesive whole entity, or identity. This fragmentation makes it difficult to fully answer the question “who am I” (Fuchs, 2007). Many clinical definitions emphasize this integration component of identity, defining identity disturbance as “failure to establish stable and integrated representations of self and others” (Livesley, 2003, p. 19) and “the lack of an integrated self concept” (Kernberg, 1985, p. 39).

Poor integration in identity disturbance includes both observed and experienced fragmentation. Observed fragmentation includes inconsistency, or an objective incoherence and persistent contradiction in thoughts, feelings, and behavior (Wilkinson-Ryan & Weston, 2000).

Subjective fragmentation, or painful incoherence, is the experience of distress or concern about identity incoherence (Jørgensen & Boye, 2022; Wilkinson-Ryan & Westen, 2000). The distress of subjective fragmentation is central to transdiagnostic theories of identity disturbance (Sass & Parnas, 2003), and has been indicated as more characteristic of identity disturbance in borderline personality disorder (BPD) than objective inconsistency in behavior, thoughts, and emotions (Wilkinson-Ryan & Westen, 2000). Bigler and colleagues (2001) also found that subjective coherence was more predictive of psychological adjustment than actual level of differentiation in selves across contexts.

Subjective incoherence and objective inconsistency are just two of many proposed dimensions of identity disturbance (Wilkinson-Ryan & Westen, 2000). Identity disturbance is thought to contain a variety of dimensions corresponding to components of identity functioning. These domains broadly cover disruptions in the many interrelated processes contributing to identity (Jørgensen, 2010; Gallagher, 2013), as well as the clinical manifestations of those disruptions in various domains of life (Erikson, 1963; Akhtar & Samuel, 1996). These broadly include domains of identity such as (1) *self as the locus of experience*, including subjective ownership of a mind and physical body, and the sense that actions, emotions, and thoughts are originating from that singular, stable, experiential self (Sass & Parnas, 2003); (2) *sense of self-sameness*, or the continuous experience of selfhood (Jørgensen & Boye, 2022); (3) *accessibility of self-knowledge*, e.g., personality traits, personal attributes, self-esteem, personal history, goals, relationships, worldview (Baumeister, 2010); (4) *coherence of self-knowledge*, or the experience that self-defining information is congruent and can exist within a single person (Caligor & Kernberg, 2005; Wilkinson-Ryan & Westen, 2000); (5) *sense of personal agency*, or that the individual has control over their own life (Frankfurt, 1988); (6) *sense of authenticity*, or a sense

that the person acts in accordance with their own values and beliefs (Akhtar, 1984; Wood et al., 2008;); (7) *sense of purposefulness* or meaning in life (Schlegel et al., 2009; Westen & Heim, 2003); (8) *stability of self-representation,* or the consistency in self-knowledge over time and across contexts (Kernberg, 1985); (9) *narrative continuity,* or ability to construct a clear and coherent account of events and their importance to personal identity (Adler & Clark, 2019; Fuchs, 2007); (10) *self-other differentiation,* or the ability to distinguish personal identity from those of other people (Skodol, 2007). These domains are differentiated further based on identity content (e.g., sexual orientation, vocation, personality traits, affiliative preferences) in some theories (Akhtar, 1984), and consolidated into fewer processes in other theories (Sass & Parnas, 2003).

Individuals experiencing identity disturbance are thought to experience disruptions along these broad domains. These disruptions contribute to clinical manifestations of (1) *disrupted phenomenological selfhood*, including painful subjective incoherence, depersonalization, emptiness, and the sense of having a 'false self'(Wilkinson-Ryan & Westen, 2000; Sar et al., 2017; Miller et al., 2021; Jørgensen & Boye, 2022); (2) *inconsistent attitudes and behavior*, experienced as sudden shifts in emotions, thoughts, and behavior based on context (Akhtar, 1984; Caligor & Kernberg, 2005); and (3) *identity-related interpersonal problems*, experienced as unstable attitudes towards oneself and other people, reliance on other people for a sense of self, and fear of personal identity being engulfed by other people (Kernberg, 1985; Skodol, 2007). Examples of clinical manifestations of identity disturbance dimensions are presented in Table 1.

Given that identity disturbance reflects disruptions in domains of identity, identity disturbance is theorized as a multidimensional construct. However, the number of proposed dimensions of identity and identity disturbance varies widely across scholars, largely dependent on the theoretical tradition of origin (Westen, 1992). The wealth of conceptual literature has led to

a plurality of identity disturbance assessments, each attempting to operationalize a different conceptualization. A search of the clinical literature for assessments of identity disturbance yielded eighteen questionnaires (see Table 3). Search terms included "identity," "self," "sense of self," "personality," "self-concept," and "self-concept coherence," "self-concept integration," "self-concept unity," and "identity disturbance." Assessments were included based on the following criteria: a) the measure was developed to assess the current subjective experience of self in the present/across time, as related to self-knowledge, coherence, or temporal stability in aspects of the self-concept such as interpersonal relationships, values/beliefs, and reactions to personal thoughts/emotions, b) it assesses participants' self-reported experiences (i.e., is a self-report questionnaire), c) responses are along a Likert scale, d) items are in the form of sentences rather than single words, e) identity disturbance scores can be interpreted dimensionally (rather than placing respondents into categories of developmental identity status or identity styles), and f) the reliability and validity of the measure are supported. Table 3 presents the questionnaires and their intended content, facets, and dimensions.

These assessments were designed based on a variety of theoretical assumptions about identity and identity disturbance. For example, the identity subscale of the Inventory of Personality Organization (IPO; Kernberg & Clarkin, 1995) is made of twelve items designed from psychoanalytic theories of personality pathology, while the Identity Consolidation Inventory (ICI; Akhtar & Samuel, 1996) is a thirty-five-item scale derived from developmental theories of identity formation. Identity disturbance in the IPO is thought to represent up to three dimensions of "instability of self and other, instability of goals, and instability of behaviors" (Ellison & Levy, 2011, p. 1). Identity disturbance in the ICI is thought to encompass seven factors of "contradictory character traits, temporal continuity of the self, subtle body image disturbances, lack of

authenticity, feelings of emptiness, gender dysphoria, and inordinate ethnic and moral relativism" (Samuel & Akhtar, 2009, p. 54). These two questionnaires therefore operationalize different assumptions about dimensions of identity disturbance and are representative of the types and degree of heterogeneity that characterize the field.

Although a review of theory and assessments of identity disturbance would suggest that identity disturbance is a multidimensional construct, there is little consensus on the structure of individual differences in identity disturbance. Further, the limited empirical investigation of identity disturbance structure draws from a variety of assessments and similarly comes to disparate conclusions (Jørgensen & Boye, 2022; Taylor & Goritsas, 1994; Uliaszek et al., 2021; Wilkinson-Ryan & Westen, 2000). In an exploratory factor analysis of clinician evaluations of patient identity disturbance, Wilkinson-Ryan and Weston (2000) identified four dimensions: (1) *painful incoherence*, or a distressing sense of incoherence; (2) *inconsistency*, or the observed incoherence in thought, feeling and behavior; (3) *role absorption*, or having a single role or social group membership engulf the entirety of the person's identity; and (4) *lack of commitment*, which includes difficulties maintaining goal-directed action and a set of clear values. Although this study shed light on potential structures of identity disturbance, it does not help clarify the relationship between theory and assessment of identity disturbance. These four factors are derived from clinician responses to items designed for this study, rather than patient self-reported responses to commonly used assessments.

A more recent study investigated dimensions of identity disturbance in existing self-report questionnaires. Uliaszek and colleagues (2021) administered three identity functioning questionnaires: the Ego Identity Process Questionnaire [EIPQ], the identity integration subscale of the Levels of Personality Functioning Scale [LPFS], and the Self-Concept Clarity Measure

[SCIM]. They also assessed narrative coherence through the Life Story Interview. Despite theory that identity disturbance contains multiple dimensions, a single factor model, with one general factor of identity functioning, provided the best fit for the data (Uliaszek et al., 2021). This emergence of a single factor with these measures supports the idea that identity disturbance exists along a dimension of nonpathological to pathological identity functioning. However, the emergent one-factor structure may represent the three questionnaires included in the study while not representing the full range of items developed from the identity disturbance literature.

The existing empirical research seems to offer further contradictory structures of identity disturbance arising from a variety of identity measures, with one indicating four factors of identity disturbance in clinician observations (Wilkinson-Ryan & Westen, 2000) and another indicating a single general factor of identity functioning in self-report (Uliaszek et al., 2021). The differences in structure may arise from differences in the types of assessments, definitions of identity disturbance, and clinical severities of the study samples. However, both studies could be representing different aspects of the identity disturbance structure; it may be that identity disturbance has a hierarchical structure, with a general factor of identity functioning *and* multiple dimensions of identity disturbance. Therefore, it is unclear from the empirical research whether identity disturbance is unidimensional or multidimensional, structured hierarchically or nonhierarchically.

The existing empirical research does not settle conceptual contradictions in definitions, structures, or assessments of identity disturbance. Without a clear structure in theory and assessment, it is difficult to conduct and interpret research on the role of identity disturbance in emotional and interpersonal functioning. Further, an understanding of identity disturbance is key

to clinical assessment and treatment of this distressing and central symptom (Pollack et al., 2001; Akhtar, 1984).

In accordance with the plurality of empirical definitions and assessments, clinical definitions of identity disturbance are similarly diffuse. Identity disturbance is defined in Section II (Diagnostic Criteria and Codes) of the 5th edition of the Diagnostic Statistical Manual for Mental Disorders ([DSM-5], American Psychiatric Association, 2013) as a "markedly and persistently unstable self-image or sense of self," represented in "shifting goals, values, and vocational aspirations…opinions and plans about career, sexual identity, values, and types of friends" (APA, 2013, p. 663). The description also includes feelings of not existing, but the Section II DSM-5 definition emphasizes impairments in observed stability in commitments as the primary disturbance in identity. This DSM-5 definition of identity disturbance is rather vague, not including the other dimensions explored in theory and research such as the patient's subjective sense of incoherence, difficulty differentiating self and other, and unstable narrative continuity. Further, it is only discussed in the diagnostic criteria for borderline personality disorder and dissociative disorders, despite the centrality of identity disturbance to theories of other personality disorders (Bogaerts et al., 2021), eating disorders (Stein & Corte, 2007), schizophrenia (Sass & Parnas, 2003), and depression (Prabhakar et al., 2022).

The Alternative DSM-5 Model for Personality Disorders (AMPD) in Section III (Emerging Models and Measures) proposes updated clinical definitions for identity that extend the centrality of identity disturbance to all personality disorders (APA, 2013). Within the AMPD, "self-functioning" is divided into identity and self-direction. Identity is defined as the "experience of oneself as unique, with clear boundaries between self and others; stability of self-esteem and accuracy of self-appraisal; capacity for, and ability to regulate, a range of emotional experience"

and self-direction is the "pursuit of coherent and meaningful short-term and life goals; utilization of constructive and prosocial internal standards of behavior; ability to self-reflect productively" (APA, 2013, p. 762). The AMPD definitions of self and identity therefore cover a wide range of self-functioning, with specific identity impairments varying across personality disorders. However, diagnostic categories in the DSM-5 other than personality disorders are still lacking in clear and comprehensive clinical definitions and assessments of identity functioning.

The wealth of theory on identity disturbance presents a challenge for building a clear conceptualization of identity disturbance in research and clinical assessment. However, the subsequent abundance of identity disturbance assessments presents an opportunity to empirically investigate the structure of identity disturbance. The present project aims to investigate the factor structure of identity disturbance based on the items from commonly used identity disturbance questionnaires. Through an exploratory factor analysis of items from eighteen self-report measures, we investigate the number of distinct factors of identity disturbance that can be grouped from the questionnaire items, as well as the structure of those factors. We anticipate that multiple factors will emerge, with the best-fitting structure of identity disturbance consisting of a general factor of identity disturbance (representing overall identity functioning) and several specific factors representing domains of identity disturbance corresponding to theory (see Figure 1).

1.2 Identity Disturbance and Interrelated Processes

There is a variety of conceptual and methodological issues contributing to difficulty pinpointing the structure of identity disturbance. This includes difficulties integrating existing theories of identity disturbance from disparate psychological disciplines (Westen, 1992), as well

as common philosophical complications in the study of identity and identity disturbance (Klein, 2012). One such complication is the centrality of identity to experience. Definitions of identity are broad and incorporate many aspects of functioning. If identity is defined as "an *array* of self-relevant knowledge, the *tool* we use to make sense of our experiences, and the *processes* that construct, defend, and maintain this knowledge" (Oyserman et al., 2012, p. 500, italics added), it is difficult to disentangle identity functioning from the intricately interrelated processes that maintain it. The unclear definition of identity disturbance fosters confusion about the relationship between identity and interrelated processes. It may be that different dimensions of identity disturbance may represent different processes and outcomes of identity disturbance, differentially relating to otherwise closely related concepts. By examining the structure of identity disturbance in commonly used assessments, we can begin to understand how dimensions of identity disturbance may differentially relate to conceptually linked processes. Further, a nuanced investigation into the relationship between identity disturbance and related processes may help us take stock of what is being measured when we say we are assessing 'identity disturbance.' Three main processes conceptually linked to identity disturbance are personality, emotion regulation, and interpersonal functioning.

1.2.1 Identity and Personality

Research and theory suggest that identity and personality are linked concepts, with personal identity incorporating content information about personality traits (McConnell, 2011) and identity functioning associated with stability in personality traits over time (Uliaszek et al., 2021). In clinical theory, identity disturbance is considered an integral aspect of personality pathology, suggesting that identity functioning is key to personality functioning (APA, 2013). Accordingly,

identity impairment is highly correlated with potentially distressing personality traits such as negative affect, detachment, antagonism, disinhibition, and psychoticism (see Zimmerman et al., 2019 for a review). The relationship between identity and personality is outlined more concretely in the developmental psychology literature (Erikson, 1968). In research and theory of personality and identity development, identity processes of exploration and commitment form a bidirectional relationship with personality features, such that identity and personality mutually inform one another across the lifespan (Marcia, 1966; Topolewska-Siedzik & Cieciuch, 2019). Theory would therefore suggest that an individual's identity processes are related to general personality processes reflected by the Big Five personality traits: neuroticism/negative emotionality, extraversion, agreeableness, conscientiousness, and openness to experience.

Accordingly, previous research suggests that identity processes are associated with the Big Five personality traits. Identity consolidation, which reflects the ability to explore and form a stable sense of self, is associated in emerging adults with lower levels of negative emotionality, and higher levels of openness to experience, agreeableness, extraversion, and conscientiousness (see Topolewska-Siedzik & Cieciuch, 2019). Identity diffusion, which reflects disruptions in the ability to form a coherent sense of self and difficulty forming commitments to a stable identity, is associated with higher levels of negative emotionality, and lower levels of extraversion, openness, and conscientiousness (see Topolewska-Siedzik & Cieciuch, 2019). In their study on the structure of identity functioning from three different identity measures, Uliaszek and colleagues (2021) found that the general factor of identity dysfunction seems to be overall strongly associated with mean higher levels of neuroticism and lower levels of extraversion and agreeableness, but not significantly associated with conscientiousness or openness. These results suggest that individuals experiencing higher levels of identity disturbance experience more negative emotionality and are

more introverted and socially detached than individuals with higher identity functioning and lower identity disturbance. However, the relationship between identity disturbance and Big Five personality traits varies across studies using different measures of identity functioning. For example, individuals who feel that their beliefs about themselves are clearly defined, internally consistent, and stable as assessed with the Self-Concept Clarity scale (Campbell et al., 1996) additionally report significantly higher conscientiousness than people with lower self-concept clarity, suggesting that there may be a dimension of identity disturbance associated with lower conscientiousness, or higher disorderliness and impulsivity.

Big Five personality traits even vary in their associations with different factors within the same identity functioning measure. For example, when relating the Big Five to the three-factor Authenticity Scale (Wood et al., 2008), individuals who feel more alienated from themselves report lower extraversion, lower agreeableness, lower conscientiousness, and higher neuroticism, individuals living their lives more in accordance with their own beliefs endorse lower neuroticism, higher agreeableness, and higher openness, and individuals who feel less differentiated from other people report lower extraversion, but do not demonstrate consistent associations with the other Big Five traits. In these regression analyses, Big Five personality traits explained only between 11% and 13% of the variance in identity functioning scores, suggesting that identity functioning may be conceptually distinct from the Big Five personality traits.

The overall variability in the relationships between identity functioning and Big Five personality traits suggests that identity and Big Five personality are related, but conceptually distinct. Further, different domains of identity functioning may demonstrate unique relationships with Big Five personality traits. The present project aims to investigate the relationship between identity disturbance and the Big Five personality traits by examining the relationship between

emerging factors of identity disturbance and personality. We hypothesize that a general factor of identity disturbance will be strongly positively associated with negative emotionality and strongly negatively associated with extraversion and agreeableness. Based on previous literature, we also hypothesize weak to moderate negative associations between identity disturbance and conscientiousness and openness. Further, we hypothesize that emergent factors of identity disturbance may demonstrate different patterns of association with conscientiousness and openness.

1.2.2 Identity and Emotion Regulation

A proposed function of identity is to promote stable emotional experiences. Clarity in emotional situations and use of emotion regulation strategies has been associated with identity disturbance across diagnoses (Neacsiu et al., 2015). Identity disturbance has also been associated with emotion regulation in a nonclinical sample (Shalala et al., 2020). However, the relationship between emotion regulation and identity is unclear, with emotional instability theorized as both a mechanism (Linehan, 1993) and manifestation of identity disturbance (Kernberg, 1968). Therefore, a greater understanding of the structure of identity disturbance may be facilitated by knowledge of how identity disturbance dimensions relate to emotion regulation. The present project aims to investigate associations between factors of identity disturbance and emotion regulation. We hypothesize that all emerging dimensions of identity disturbance will correlate moderately with emotion regulation. We also hypothesize that an emergent identity disturbance dimension of variability over time and across contexts will be uniquely associated with poor emotion regulation, beyond other dimensions.

1.2.3 Identity and Interpersonal Relationships

Identity functioning is even more closely linked to interpersonal functioning (Leary & Baumeister, 2000). Definitions of identity disturbance often include integrating representations of self and of significant others (Jørgensen, 2010). Identity functioning and interpersonal functioning are thought to rely on shared processes, such as the ability to reflect on mental states (DeMeulmeester et al., 2017) and the ability to differentiate oneself from other people (Skodol et al., 2007). Accordingly, individuals with greater identity dysfunction particularly tend to report less differentiation from other people and a lower sense of agency in pursuing personal goals (Bender et al., 2011; Beeney et al., 2019), which may contribute to interpersonal problems related to being overly submissive. Further, identity dysfunction is associated with incongruence between actual interpersonal behavior and interpersonal values (Hofer et al., 2006). This incongruence in interpersonal values and behavior is associated with elevated interpersonal distress, such as when an individual values warm/communal behavior and endorses low efficacy in interpersonal warmth (Kehl et al., 2021).

To clarify the relationship between identity problems and interpersonal problems, the present project aims to investigate associations between emergent factors of identity disturbance and interpersonal qualities, such as interpersonal problems and interpersonal values. We hypothesize that all emerging dimensions of identity disturbance will correlate moderately with interpersonal problems. Particularly, we anticipate that higher levels of identity disturbance will be associated with lower levels of interpersonal agency, and more problems associated with being overly interpersonally submissive. We also hypothesize that an emergent identity disturbance dimension of individuation concerns will be uniquely associated with interpersonal problems,

beyond other dimensions. Further, we anticipate that an emergent dimension of individuation concerns may be associated with incongruence in interpersonal problems and interpersonal values.

1.2.4 Aims and Hypotheses of the Current Study

The proposed project has two main empirical aims:

Aim 1: *Explore factors of identity disturbance*. To elaborate our conceptualization of identity disturbance, the proposed project assesses distinct subdomains through an exploratory factor analysis (EFA) of existing self-report identity disturbance measures. We anticipate the emergence of a general identity/identity disturbance factor as well as multiple theory-supported domains. These domains may include dimensions of a) subjective incoherence, b) instability over time and across contexts, and c) interpersonal instability and individuation concerns in relationships. We anticipate a bifactor model will provide the best theoretical fit for the data, with a general factor of identity disturbance, as well as several specific factors (see Figure 1, Model C).

Aim 2: *Explore associations between identity disturbance and related constructs.* Given that identity disturbance has been conceptually and empirically associated with disruptions in emotional and interpersonal functioning, the proposed project will investigate associations between emergent identity disturbance domains, Big Five personality, emotion regulation, and interpersonal qualities. Regarding associations with personality traits, we anticipate that a general factor of identity dysfunction will primarily be associated with higher Big Five negative emotionality, lower extraversion, and lower agreeableness. We hypothesize that emergent factors will differentially relate to openness and conscientiousness. Regarding associations with emotion regulation, we anticipate that emotion regulation will correlate moderately with all emergent dimensions of identity disturbance. We also hypothesize that emotion regulation will be uniquely

associated with emerging identity disturbance dimensions of emotional instability. Regarding associations with interpersonal qualities, we anticipate that elevated interpersonal problems and endorsement of interpersonal values will correlate moderately with all emergent dimensions of identity disturbance. We also hypothesize that interpersonal problems and values will be uniquely associated with identity disturbance dimensions of individuation concerns. Further, we anticipate that incongruence between interpersonal problems and values may be associated with elevated interpersonal problems.

2.0 Methods

2.1 Participants

Participants were 800 adults in the Pittsburgh, Pennsylvania area recruited via the University of Pittsburgh study pool. Participant age range was restricted to 18- to 29-years-old, reflecting previous research that relationships between self-concept constructs vary over the lifespan (see Demo, 1992 for a review), with particularly high variability in identity formation during the period of emerging adulthood (Arnett, 2005). All eligible participants must indicate, proficiency in ability to read English, and access to the Internet on a laptop or computer (to complete the study online). Participants were compensated with study pool course credits for University of Pittsburgh undergraduate psychology and research courses. As identity disturbance has typically been assessed in the context of the identity dysfunction experienced in borderline personality disorder (Wilkinson-Ryan & Westen, 2000), participants were selected for variability in BPD symptom severity to infuse the sample with variability in identity disturbance. Participants were selected such that the sample reflects a 1-1-2 ratio of high, moderate, and low BPD symptom severity.

Interspersed throughout the questionnaire items were three basic attention check questions (e.g., “For this question, please answer by selecting the ‘Extremely like me’ response option”). Participants were excluded from final analyses if they failed two or more attention checks. Of the 800 participants, 590 did not fail any attention checks, and 42 failed one attention check. Therefore, responses from 632 participants (79%) were included in final analyses. Of these 632 participants, the majority were White (78%), heterosexual (70%), and cisgender women (72%). These

participants were between 18 and 28 years old (M = 18.68, SD = 1.05; see Table 2 for sample demographics).

2.2 Study Procedure

Study procedures were completed online over the course of approximately two hours via the REDCap secure survey platform. Participants indicated consent as approved by the University of Pittsburgh Internal Review Board. Participants were then asked to complete a series of questionnaires assessing sense of self/identity disturbance and related constructs. All participants were provided with an informational debriefing form about the purpose of the study after completing the questionnaires.

2.3 Measures

2.3.1 BPD severity

As part of the eligibility screening process, BPD features were assessed with the McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD; Zanarini et al., 2003). The MSI-BPD is a commonly used screening instrument for BPD that includes 10 items assessing the DSM-IV/5 diagnostic criteria for BPD, including chronic feelings of emptiness, emotional instability, efforts to avoid real or imagined abandonment, unstable self-image, impulsive behavior, intense anger, unstable and intense interpersonal relationships, self-harming behavior,

and dissociation. Responses to each item are binary, with participants indicating 1 = "yes," they experience that symptom, or 0 = "no," they do not experience that symptom. Total scores for each participant are calculated from the number of "yes" responses, with possible scores ranging from 0 to 10.

Cutoff scores were based on recommendations from previous research (see Zimmerman & Balling, 2021 for a review). Scores of 5 or more are considered "high," scores of 0-1 are considered "low," and scores of 2-4 are considered "moderate."

2.3.2 Sociodemographics

All participants completed a demographics questionnaire assessing age, sex at birth, race, ethnicity, religious affiliation, gender identity, sexual orientation, romantic relationship partner status, highest level of education completed, highest degree earned, current employment status/occupation, and history of mental health treatment (including types of past treatment, reasons for treatment, duration of treatment, and psychiatric diagnoses).

2.3.3 Identity Disturbance Items

See Table 3 for the included questionnaires and their proposed facets (see supplemental table 1 for a full list of items). Most items (from 17 total measures) were presented together as a single set of statements, set to a Likert scale response of 0 = "Not at all like me" to 4 = "Extremely like me." Due to formatting constraints, the Personality Structure Questionnaire (PSQ; Pollack et al., 2001) was presented in its original form (8 questions on a Likert of 1 to 5). Although full scales were administered, only self/identity functioning items were included in final analyses (e.g., the

57-item IPO was administered, but only the 21 identity diffusion subscale items were included as self/identity items). The five items from the gender dysphoria subscale of the Identity Consolidation Inventory (e.g., "I feel sexually aroused by persons of the opposite sex") were left out due to demonstrated poor criterion validity in previous research (Gagnon et al., 2016) and potential psychological discomfort for participants.

Related Constructs. We assessed discriminant validity between factors of identity disturbance by examining correlations between emergent factors and the closely related constructs of personality, emotion regulation, and interpersonal qualities.

2.3.4 Personality

All participants completed the extra-short form of the Big Five Inventory-2 (BFI-2-XS; Soto & John, 2017), a 15-item measure of the Big Five personality domains: extraversion, agreeableness, negative emotionality (neuroticism), conscientiousness, and open-mindedness. Responses are on a Likert scale of 1 = "disagree strongly" to 5 = "agree strongly." Each domain score is calculated through the prorated mean of its three corresponding items. Cronbach's alpha for the BFI-2-XS subscales in our sample ranged from 0.39 (open-mindedness to 0.74 (negative emotionality).

2.3.5 Emotion Regulation

All participants completed the Difficulties in Emotion Regulation Scale – Short Form (DERS-SF; Kaufman et al., 2016), an 18-item measure of emotion regulation retaining the six dimensions of the original scale (Gratz & Roemer, 2004): a) nonacceptance of emotional

responses, b) difficulties engaging in goal-directed behavior, c) impulse control difficulties, d) lack of emotional awareness, e) limited access to emotion regulation strategies, and f) lack of emotional clarity. Responses are on a Likert scale of 1 = "almost never" to 5 = "almost always." Total scores are represented as prorated means of corresponding items. Higher scores on each subscale represent greater problems with that subscale; higher total scores represent greater problems with emotion regulation overall. Cronbach's alpha for the DERS-SF in our sample was 0.87.

2.3.6 Interpersonal Problems

All participants completed the 32-item Circumplex Scales of Interpersonal Problems (CSIP-32; Boudreaux et al., 2018). The CSIP-32 assesses problematic interpersonal tendencies with eight scales, or octants, reflecting different combinations of agency and communion (four items each; see Figure 2). In reference to interpersonal problems, these octants can be conceptualized as: domineering (PA), self-centered or vindictive (NO), distant (LM), socially inhibited (JK), nonassertive (HI), overly accommodating (FG), self-sacrificing (DE), and intrusive (BC). Participants are asked how much they experience that problem on a scale of 1 = "not a problem" to 4 = "serious problem." Scores for each octant are calculated as prorated means of the corresponding item responses. Scores for overall elevation of interpersonal problems are calculated as the mean of all octant scores. Scores for agentic interpersonal problems are calculated by the following formula: Agency = 0.25*(PA – HI + (sin(pi/4) * (BC + NO – FG – JK)). Scores for communal interpersonal problems are calculated by the following formula: Communion = 0.25*(LM – DE + (sin(pi/4) * (NO + JK – FG – BC)). These formulas partial out the score relevant for the dimension in question for the remaining octants, while 0.25 serves as a scaling coefficient.

2.3.7 Interpersonal Values

All participants completed the 32-item Circumplex Scales of Interpersonal Values (CSIV-32; Locke, 2000). The CSIV-32 assesses values or motivations related to interpersonal behavior also using a circumplex structure with octant scales (see Figure 2). In reference to interpersonal values, these octants can be conceptualized as: assertive (PA), forceful (NO), cool and detached (LM), reserved (JK), deferential (HI), amenable (FG), affectionate (DE), and extroverted (BC). Participants are asked how important it is that they appear a certain way in social settings on a scale of 1 = "not at all important" to 4 = "extremely important." Scores for each octant are calculated as prorated means of the corresponding item responses. Scores for overall elevation of interpersonal values are calculated as the mean of all dimension scores. Scores for agentic interpersonal values are calculated by the following formula: Agency = 0.25*(PA – HI + (sin(pi/4) * (BC + NO – FG – JK)). Scores for communal interpersonal values are calculated by the following formula: Communion = 0.25*(LM – DE + (sin(pi/4) * (NO + JK – FG – BC)).

3.0 Results

All analyses for the main aims were conducted in R studio (RStudio Team, 2020) and Mplus (Muthén & Muthén, 2017). Descriptive statistics can be found in Table 4.

Aim 1: *Characterize factors of identity disturbance in existing measures*. We investigated factors of identity disturbance using exploratory factor analyses (EFA). Items included in each stage of factor analysis are found in supplemental tables 1-12. We first estimated a polychoric correlation matrix of all 344 self/identity functioning items from the 18 identified measures. Items were evaluated for redundancy, with highly correlated items (at $r \geq 0.80$) flagged for comparison and possible removal. At this stage, we removed 16 redundant items (originating from the following questionnaires: GAPD, RSSS, SCIM, IPO, SI, and SIPP). Given that the items of the Sexual Self-Concept Ambiguity scale (SSA) were largely correlated at $r > .80$, we also removed the full 10-item SSA. We were left with 318 non-redundant self/identity items.

We then conducted a series of EFAs in Mplus. EFAs were estimated with oblique geomin rotations, as we expected that the emerging factors would be intercorrelated. Results of a parallel analysis suggested up to 13 possible factors, with the observed eigenvalue of the 13th factor being the last that exceeded the 95%ile of the eigenvalue distribution of random data sets. In investigating 13 factor solutions, positively keyed items (reflecting Identity Disturbance, e.g., "I feel like a puzzle and the pieces don't fit together") and negatively keyed items (reflecting Identity Clarity, e.g., "I know who I am") loaded on separate factors. Thus, the partition of factors appeared to most strongly reflect item keying as opposed to construct-level differences. We divided the 318 self/identity items into a set of 249 positively keyed items and 69 negatively keyed items to proceed with separate factor analyses. Tables with factor loadings for the positively keyed identity items

(Identity Disturbance) and negatively keyed identity items (Identity Clarity) can be found in the supplemental materials.

3.1 Positively Keyed Items

Parallel analyses on the set of 249 positively keyed Identity Disturbance items suggested up to 11 possible factors, with the observed eigenvalue of the 11th factor being the last that exceeded the 95%ile of the eigenvalue distribution of random data sets. Notably, the first factor explained a large amount of the variance, explaining approximately 34% of the variance while further factors explained 3% or less additional variance. In investigating 11 factor solutions, we decided that a four-factor solution was the largest number of factors we could retain that were well-defined (i.e., had multiple unique indicator loadings) and interpretable. To estimate the number of unique indicator loadings, we noted the number of items in each factor loading at |.50| or higher and crossloading at less than |.30|, and at least |.20| less than the primary loading.

In a four-factor solution of Identity Disturbance items, three substantial factors emerge: (1) Self-Alienation, composed of 76 unique indicators reflecting disrupted experience of self, including "I feel out of touch with the 'real me'" and "Nothing about me feels real" (primary loadings ranging .51 to .95 and crossloadings ranging -.21 to .22); (2) Susceptibility to External Influence, composed of 6 unique indicators reflecting dependence on other people as external sources of identity, including "Other people influence me greatly" and "I follow others' ideas rather than my own" (primary loadings ranging .61 to .71 and crossloadings ranging -.06 to .29); and (3) Self-Dysregulation, composed of 18 unique indicators reflecting difficulty maintaining stability in emotions and behavior, including "Others have told me that I should try harder to avoid

losing control over my feelings" and "I often find myself behaving in ways that are out of character" (primary loadings ranging .51 to .87 and crossloadings ranging -.22 to .24). The four-factor solution also includes one sparse, heavily cross-loading factor, Contingent Self-Esteem, that emerges early and persists throughout the factor solutions despite its relative lack of unique indicators. Contingent Self-Esteem consists of 3 unique indicators reflecting susceptibility to external sources of self-esteem, including "When I'm not doing well at something, I might get very angry or feel ashamed about my abilities" and "When others see me as having succeeded, I'm elated, and, when they see me as failing, I feel devastated" (primary loadings ranging .53 to .65 and crossloadings ranging -.15 to .28). The four factors correlated with each other at .16 (Contingent Self-Esteem and Susceptibility to External Influence) to .73 (Self-Alienation and Self-Dysregulation), with a median association of .35. The three-factor solution included Self-Alienation, Self-Dysregulation, and Contingent Self-Esteem, but did not include Susceptibility to External Influence. Given that Susceptibility to External Influence emerged with 6 unique indicators in the four-factor solution and is supported by theories of identity disturbance (Wood et al., 2008), we favored a factor solution retaining that factor. Solutions with at least five factors include proposed factors with no unique indicators, suggesting over-factoring at five factors. Therefore, we determined that a four-factor solution best fit the data.

We then estimated an Identity Disturbance model with a bifactor rotation (with orthogonal specific factors) to evaluate patterns of loadings on general and specific factors for interpretability. After including a general factor, Self-Alienation items were largely absorbed into the general factor, while factors of Self-Dysregulation, Susceptibility to External Influence, and Contingent Self-Esteem maintained integrity, with 6, 5, and 2 unique indicators respectively (see Table 5). At

this stage, it was unclear whether the positively keyed factors were distinct or reflective of the general factor of Identity Disturbance.

3.2 Negatively Keyed Items

Parallel analyses on the set of 69 negatively keyed Identity Clarity items suggested up to 4 possible factors of Identity Clarity, with the observed eigenvalue of the 4th factor being the last that exceeded the 95%ile of the eigenvalue distribution of random data sets. In a three-factor solution, the following factors emerge: (1) Self-Consistency, composed of 3 unique indicators reflecting consistent sense of self, including "Looking in the mirror, I appear about the same each time" and "I act and feel essentially the same way whether at home, at work, or with friends" (primary loadings ranging .57 to .66 and crossloadings ranging -.07 to .12); (2) Reflective Functioning, composed of 23 unique indicators reflecting metacognitive processing of identity-related content, including "If I need to, I can reflect about myself and clearly understand the feelings and attitudes behind my past behaviors" and "I always have a good sense about what is important to me" (primary loadings ranging .50 to .78 and crossloadings ranging -.27 to .23); and (3) Authentic Living, composed of 3 unique indicators reflecting living in accordance with one's values and beliefs, including "I always stand by what I believe in" and "I am true to myself in most situations" (primary loadings ranging .58 to .62 and crossloadings ranging -.01 to .19). The three factors correlated with each other from .15 (Self-Consistency and Authentic Living) to .49 (Self-Consistency and Reflective Functioning), with a median association of .42 (Reflective Functioning and Authentic Living). Correlations between factor scores for positively and negatively keyed factors can be found in Table 6.

We then estimated an Identity Clarity model with a bifactor rotation to evaluate patterns of loadings on general and specific factors for interpretability. After including a general factor, Self-Consistency and Reflective Functioning were largely absorbed into the general factor, while Authentic Living maintained only 2 primary loading items (see Table 7). At this stage, it was unclear whether the negatively keyed factors were distinct or reflective of the general factor of Identity Clarity.

Aim 2: *Explore associations between identity disturbance domains and related constructs*. To investigate whether the Identity Disturbance and Identity Clarity factors were distinct, we examined their associations with four related constructs: Big Five personality traits (BFI-2XS), emotion regulation (DERS-SF), interpersonal problems (CSIP-32), and interpersonal values (CSIV-32). We used exploratory structural equation modeling (ESEM) to investigate zero-order (correlations) and unique (regression paths) associations between the four emergent identity disturbance domains and related constructs in eight models. ESEMs with all 249 Identity Disturbance items would not converge. To decrease the number of observed indicators in the models, we removed all items with a <0.5 primary factor loading and items with a secondary factor loading of ≥0.3. This brought us to a new set of 113 Identity Disturbance items. EFAs were rerun with the 113 items to ensure the four-factor solution still described the data well.

Eight ESEMs were then run with the new set of 113 Identity Disturbance items and the external correlate scale scores (Table 8). Self-Alienation was significantly associated with the majority of the external correlates (except Big Five open-mindedness), with correlations ranging from modest ($r = .23$, $p < .001$) to large ($r = .69$, $p < .001$) The largest associations were with distress-related measures, such as Big Five negative emotionality ($r = .69$, $p < .001$), difficulty with emotion regulation ($r = .67$, $p < .001$), and elevated interpersonal problems ($r = .53$, $p < .001$). Susceptibility

to External Influence and Self-Dysregulation demonstrated similar patterns of associations, with some notable differences. Susceptibility to External Influence and Self-Dysregulation were both significantly negatively associated with Big Five open-mindedness (r = -.16 and -.15, p<.001, respectively). Whereas Self-Alienation was significantly associated with lower agreeableness (r = -.25, p<.001), interpersonal problems of low communion (r = -.13, p=.001), and interpersonal values of low communion (r = -.24, p<.001), Susceptibility to External Influence was not significantly associated with agreeableness, communal interpersonal problems, or communal interpersonal values. Whereas Self-Alienation was significantly associated with interpersonal problems of low agency (r = -.33, p<.001), Self-Dysregulation was not significantly associated with agentic interpersonal problems. Overall, the similar pattern of associations demonstrated across Self-Alienation, Susceptibility to External Influence, and Self-Dysregulation are reflected in associations with the general factor in results from the bifactor rotation. Contingent Self-Esteem demonstrated different patterns of association with external correlates, with correlations ranging from low (r = .14, p =.001) to moderate (r = .37, p<.001), and the largest associations were with negative emotionality (r = .37, p<.001), and communal interpersonal values (r = .35, p<.001) and problems (r = .30, p<.001).

We also used ESEM to investigate associations between the three emergent Identity Clarity domains and related constructs in eight models (Table 8). Reflective Functioning was significantly associated with most external correlates, with correlations ranging from low (r = .16, p<.001) to moderate (r = .43, p<.001). Reflective Functioning was significantly negatively associated with distress-related measures, such as difficulty regulating emotions (r = -.43, p<.001) and negative emotionality (r = -.34, p<.001). Reflective Functioning was significantly associated with lower levels of interpersonal problems (r = -.29, p<.001), though weakly associated with interpersonal

problems in agency (r = .16, p<.001) and communion (r = .18, p<.001), as well as interpersonal values of agency (r = .17, p<.001). Reflective Functioning was moderately associated with interpersonal values of communion (r = .43, p<.001). Self-Consistency and Authentic Living demonstrated similar patterns of association with external correlates, though with fewer significant associations. Notably, Authentic Living was significantly associated with only extraversion (r = .17, p=.001), open-mindedness (r = .14, p=.002), elevated interpersonal values (r = .12, p=.005), and interpersonal values of agency (r = .14, p=.008) and communion (r = .23, p<.001). The pattern of associations between Reflective Functioning and the external correlates is largely reflected in the associates between the general factor and the external correlates in results from ESEM with a bifactor rotation.

4.0 Discussion

Identity disturbance is a crucial yet elusive construct in clinical psychology, with a variety of theories about the components of identity functioning and their operationalization contributing to a plethora of self-report measures. In navigating the murky waters of identity disturbance literature, I encountered seventeen different self-report measures that are each commonly interpreted as assessments of identity disturbance. However, these measures were developed with different conceptualizations of identity disturbance in mind, thus potentially operationalizing theoretically distinct domains of identity functioning. Theoretically proposed domains vary across psychological disciplines (summarized in Table 1), though at least three categories repeatedly emerge across theoretical orientations: (a) sense of subjective incoherence in identity, (b) reported instability in identity over time and across contexts, and (c) difficulty with interpersonal relationships associated with individuation concerns, or difficulty maintaining distinction between self and other. These categories seem to be reflected differently across self-report measures of identity functioning. This diffusion of identity disturbance measures makes it difficult to investigate the relationships between identity disturbance and conceptually linked constructs, such as personality, emotion regulation, and interpersonal problems. By investigating the interplay between theory and measurement, the present project aims to 1) shed light on the structure of identity disturbance and 2) examine its relation to conceptually linked constructs.

Towards our first aim, we conducted a series of exploratory factor analyses on 17 identity disturbance measures. We anticipated the emergence of a general factor of identity disturbance, as well as multiple theory-supported specific factors. Our findings suggest that identity functioning assessed through self-report includes factors of Identity Disturbance and Identity Clarity, largely

distinguishable based on the keying of item. In theory, all individuals exist on a spectrum of identity functioning. According to identity development literature (e.g., Marcia, 1966), each person thus experiences a sense of self that can be quantified along spectra of *diffusion*, or difficulty maintaining the identity processes in Table 1, to *achievement*, or accomplishment of those same identity processes. We had anticipated that negatively and positively keyed identity disturbance self-report items together would assess the spectra of identity functioning domains, such that negatively keyed items would represent accomplishment of the identity processes domains (e.g., stable achievement of sense of purpose in life, personal agency, etc.) and positively keyed items would represent impairment in the same identity process domains (e.g., difficulty maintaining sense of purpose, personal agency, etc.). This would result in factors of identity disturbance that include a mix of both negatively and positively keyed items representing each latent construct. However, our initial exploratory factor analysis with all 318 identity functioning items resulted in negatively keyed and positively keyed items separating into different factors. Based on the results of our initial factor analyses with the full item pool, we separated negatively keyed items, largely reflecting clarity of self-knowledge (Identity Clarity items), from positively keyed items (Identity Disturbance items), for subsequent factor analyses.

There are several potential reasons for the separation of negatively and positively keyed items in our data. Firstly, there may be a true conceptual distinction between Identity Clarity items and Identity Disturbance items. It may be that the 69 identity clarity items included in existing measures do not cover the same range of functioning as the 249 identity disturbance items. Given that the identity functioning scales are developed more for assessing identity impairment rather than adaptive functioning, the negatively keyed items may not have been developed with as many specific domains of functioning in mind, making them less representative of specific domains of

identity functioning and more representative of general identity functioning. Therefore, Identity Clarity items and Identity Disturbance items in existing measures may not represent the same domains of identity functioning. Secondly, the split may be due to method effects, with participants interacting differently with negatively keyed items compared to positively keyed items, leading to different patterns in responses that do not necessarily reflect conceptual distinctions (Lindwall et al., 2012). It is therefore unclear whether the separation of negatively keyed and positively keyed items reflects a conceptual distinction or method effects. Further research is needed to understand the relationship between identity clarity and identity disturbance items along dimensions of identity functioning. Given that our hypotheses are regarding identity disturbance, we focus on the Identity Disturbance results before discussing the Identity Clarity results in the following sections.

4.1 Identity Disturbance

Based on the results of our factor analyses, Identity Disturbance may comprise at least three dysfunction factors: (1) Self-Alienation ("I feel out of touch with the 'real me'"), (2) Self-Dysregulation ("I often find myself behaving in ways that are out of character"), and (3) Susceptibility to External Influence ("I usually do what other people tell me to do"). We additionally investigated a general factor of Identity Disturbance in a bifactor model. These factors demonstrate similar patterns of association with related constructs such as personality, emotion regulation, interpersonal problems, and interpersonal values.

The emergent factors from our analyses are similar to the three hypothesized factors that repeatedly emerge across theoretical orientations, though with some notable differences. The first factor, Self-Alienation, contains items that largely represent hypothesized factor (a), *sense of*

subjective incoherence in identity (e.g., "I feel like a puzzle and the pieces don't fit together"). Self-Alienation items seem to largely reflect psychological distress associated with disruptions in minimal/experiential self (e.g., "I feel alienated from myself"), much like the "painful incoherence" dimension proposed by Wilkinson-Ryan and Weston (2000). This factor additionally contains aspects of alienation from one's identity and goals, such as lack of personal agency (e.g., "I am not in control of my own life"), lack of self-knowledge (e.g., "I find it hard to describe myself"), incoherence of self-knowledge (e.g., "The different parts of my personality are difficult to put together"), and lack of purpose (e.g., "I drift through life without a clear sense of direction"). Therefore, this first factor seems to broadly represent distressing self-alienation rather than strictly the phenomenological experiences of identity incoherence.

The second factor, Self-Dysregulation, is similar to hypothesized factor (b), *reported instability in identity over time and across contexts* (e.g., "The way I feel or behave is often very unpredictable"). Although Self-Dysregulation does include items about behavioral inconsistency (e.g., "I often find myself behaving in ways that are out of character") and instability (e.g., "The way I feel or behave is often very unpredictable"), it primarily contains items assessing behavioral impulsivity (e.g., "I frequently say things I regret later"), low insight into behavioral motivation (e.g., "I can't explain the changes in my behavior"), and difficulty self-regulating in the context of strong emotions (e.g. "I often cannot help expressing my mood inappropriately"). The items also seem to reflect contextualized inaccessibility of self-knowledge while making decisions—particularly while making emotional decisions (e.g., "When I get upset, I immediately react without any clear awareness of what I am doing")—rather than the continuous inaccessibility of self-knowledge in the Self-Alienation items. Overall, the items reflect self-dysregulation rather than general instability over time and across contexts. This discrepancy between the hypothesized

factor and the observed factor may be due to difficulty representing instability in self-report questionnaires. It may be that instability over time and across contexts is better operationalized in qualitative methods, such as coding narrative coherence (McAdams, 2018), and self-dysregulation as assessed in identity disturbance questionnaires may be one mechanism of narrative instability (Angus & Greenburg, 2011). It may be that Self-Dysregulation reflects an aspect of identity disturbance arising from emotion dysregulation and/or poor impulse control (Neacsiu et al., 2015). Notably, Self-Dysregulation maintains a significant association with difficulty regulating emotions after including the Identity Disturbance general factor in the bifactor exploratory structural equation model (r=.12, p<.001), while Susceptibility to External Influence and Contingent Self-Esteem do not.

The third and fourth factors, Susceptibility to External Influence and Contingent Self-Esteem, are similar to hypothesized factor (c), *individuation concerns*, with Susceptibility to External Influence items more clearly representing difficulty with self-other differentiation (e.g., "I imitate others rather than act like myself") and Contingent Self-Esteem representing an over-emphasis on deriving self-esteem from perceptions of other people (e.g., "When others see me as having succeeded, I'm elated and, when they see me as failing, I feel devastated"). Contingent Self-Esteem is only a partial factor, with items heavily crossloading on the Susceptibility to External Influence factor. Therefore, it may be that Contingent Self-Esteem represents additional self-esteem aspects of individuation concerns not covered directly by Susceptibility to External Influence, but that individuation concerns are the main feature of identity disturbance represented by both Contingent Self-Esteem and Susceptibility to External Influence.

Susceptibility to External Influence items largely reflect difficulty with self-other differentiation, a core aspect of identity disturbance theories of borderline personality disorder

(Skodol, 2007). Notably, three of the six unique indicators originate in the Acceptance of External Influence subscale of the Authenticity Scale (Wood et al., 2012). Individuals endorsing high susceptibility to external influence are more likely to turn to other people to derive their opinions (e.g., "My opinions are influenced by the person I am with") and actions (e.g., "I usually do what other people tell me to do"). Further, Susceptibility to External Influence seems to include an acknowledgement of dependence on others for a sense of identity in place of drawing from personal preferences (e.g., "I follow others' ideas rather than my own"). Interpersonally, Susceptibility to External Influence was associated the most strongly with submissive interpersonal values and problems. By valuing interpersonal submissiveness, individuals more susceptible to external influence may be able to rely on other people more easily for a sense of purpose and direction. However, there was no association between agreeableness or communion and Susceptibility to External Influence, suggesting that the submissiveness associated with this factor of Identity Disturbance reflects interpersonal motives of identity dependence rather than conflict-avoidance for prosocial motives.

Contingent Self-Esteem emerges as a weaker fourth factor, albeit with few constituent items that heavily crossload on the other three factors. Contingent Self-Esteem demonstrates a different pattern of association with related constructs, though the low integrity of this fourth factor makes these patterns of association difficult to interpret. The highest loading unique indicator for Contingent Self-Esteem, "Sometimes I am too harsh on myself," indicates difficulty with self-esteem, while the subsequent indicators suggest contingency of self-esteem on external sources. Similar to Susceptibility to External Influence, Contingent Self-Esteem seems to reflect identity dependence on external sources, such as other people (e.g., "When others see me as having succeeded, I'm elated and, when they see me as failing, I feel devastated") or circumstances (e.g.,

"Events in my life can really change whether or not I feel good about myself"). However, Contingent Self-Esteem items are more related to *evaluative* self-knowledge and susceptibility to external influences on identity valence, rather than content. Therefore, this factor seems to reflect a combination of low self-evaluation, difficulty with self-other differentiation, and disrupted personal agency. Contingent Self-Esteem may be an identity disturbance characteristic of narcissism, in which the self-concept is experienced as particularly vulnerable to threats against the preferred self-image (e.g., Pincus et al., 2009). Contingent Self-Esteem may be representative of narcissistic identity defenses that may represent a type of agentic identity dysfunction (McWilliams, 2011).

Our findings additionally support a general factor of Identity Disturbance that performs most similarly to the Self-Alienation factor. As we hypothesized, individuals higher in general Identity Disturbance reported experiencing more negative emotionality, and are less conscientious, extraverted, agreeable, and open-minded compared to individuals scoring lower on identity disturbance. The higher levels of negative emotionality are also accompanied by greater reported difficulty regulating emotions. Interpersonally, general Identity Disturbance is associated with more problems in interpersonal relationships, particularly related to being overly submissive and overly detached. Individuals who endorsed higher Identity Disturbance also reported overall more interpersonal values, which suggests a preoccupation with the importance of interpersonal situations and has been associated in previous research with more difficulty making decisions, worry, and internal conflict in response to interpersonal dilemmas (Locke & Adamic, 2012). Contrary to our hypotheses, higher levels of general Identity Disturbance were not associated with incongruence in interpersonal values and interpersonal behaviors. Rather, individuals higher in Identity Disturbance also reported valuing more submissive and detached interpersonal behaviors.

For example, individuals with higher Identity Disturbance may report valuing being socially guarded, wanting to hide their emotions and mistakes from other people, while also wanting to live up to others' expectations and go along with what other people want to do in social settings.

A general factor of Identity Disturbance explains a large portion (41%) of the variance in participant responses to the self and identity items, suggesting that commonly used measures of identity disturbance are largely tapping into a same general factor of Identity Disturbance. The Self-Alienation factor nearly disappears after including a general factor in the model, suggesting that that Self-Alienation is well reflected in the general factor of Identity Disturbance. However, even after including a general factor in our model, the factors of Self-Dysregulation, and Susceptibility to External Influence, and Contingent Self-Esteem still maintained a discernable degree of integrity. This suggests that items addressing Self-Dysregulation and Susceptibility to External Influence may be reflecting dimensions of Identity Disturbance distinct from the general factor. Our findings indicate that current measures of identity disturbance may reflect a general factor of Identity Disturbance, but that there may additionally be dimensions of identity disturbance, such as Self-Dysregulation and Susceptibility to External Influence, that may play a conceptually distinct role in identity functioning and are not uniformly assessed across identity disturbance self-report measures.

4.2 Identity Clarity

By analyzing the structure of the 69 negatively keyed items, we found that Identity Clarity may consist of three factors: (1) Self-Consistency ("I act and feel essentially the same way whether at home, at work, or with friends"), (2) Reflective Functioning ("If I need to, I can reflect about

myself and clearly understand the feelings and attitudes behind my past behaviors"), and (3) Authentic Living ("I always stand by what I believe in"). The general factor of Identity Clarity demonstrates largely inverse association with external correlates compared to the general factor of Identity Disturbance. Individuals higher in general Identity Clarity are better at regulating their emotions, experience less negative emotionality, and are more extraverted, agreeable, conscientious, and open-minded. They experience overall fewer interpersonal problems, with existing interpersonal problems related to being overly controlling and intrusive. Higher general Identity Clarity is also associated with valuing extraversion and assertiveness.

Authentic Living maintains integrity after including a general factor, suggesting that Authentic Living may be a distinct construct from general Identity Clarity. Authentic Living also demonstrates a different pattern of correlations with related constructs compared to the other two Identity Clarity factors. Individuals reporting higher Authentic Living seem to place higher emphasis on social perception, valuing being perceived as outgoing and assertive. Accordingly, they are more likely to report being extraverted and open to new experiences. These findings support previous findings on the relationship between authenticity and personality (Wood et al., 2012).

4.3 Limitations

These findings provide an outline for a conceptualization of the relationship between identity disturbance theory and self-report measurement. However, it is crucial to note that these results describe the relationships between the constructs of interest in a sample of emerging adults (ages 18 to 28 years). Therefore, it is possible this is a description of the structure of a largely

normative identity processes ongoing in an emerging adult population (Arnett, 2005). Results should be interpreted in the context of identity processes of exploration and uncertainty known to occur at this developmental stage, before individuals tend to make confident and stable identity commitments. Further research is needed to understand the structure of identity disturbance in clinical and more developmentally mature populations. Given that identity processes are considered crucial to an understanding of emerging adult mental health, these results are still helpful for understanding the structure of identity processes and their relationships with related constructs in research with this population.

Additionally, results with this majority White, non-Hispanic, heterosexual, and cisgendered sample may not generalize to individuals with other cultural norms for identity processes. For example, individuals with minority racial, sexual, or gender identities who feel that their identity exploration and commitment processes are not supported by the majority culture may report higher rates of identity disturbance in existing assessments compared to their majority peers (Talley et al., 2011), but those higher levels may be reflective of normative responses to minority stressors rather than pathological identity disturbance (Li et al., 2021). Therefore, a different pattern of associations between identity disturbance and related constructs may emerge in a sample of minority-identity participants. Further research is needed to understand the role of minority stressors in identity functioning.

4.4 Conclusion

Our findings suggest that identity disturbance in commonly used self-report assessments contains at least three dimensions discussed in theoretical literature on identity functioning, though

with some notable differences. Despite some degree of variation in content domains, these assessments largely coalesce to reflect one general factor of identity dysfunction. We broadly recommend that future research on identity functioning carefully considers the relationship between the theory and measurement when developing hypotheses, choosing assessments, and interpreting results. Specifically, our results suggest that hypotheses about specific aspects of identity disturbance should be investigated in future research with measures including items that represent the domains of identity disturbance of interest. Although one solution could be to add to the plethora of identity disturbance measures with more domain-specific measures, we could instead more intentionally draw from the variety of identity functioning measures already at our disposal. For example, hypotheses about Self-Dysregulation as a feature of identity disturbance may be better assessed by the Severity Indices of Personality Problems (SIPP-118; Verheul et al., 2008) than by other self-report identity functioning measures, as it contributes most of the primary indicators for Self-Dysregulation in the present study. Development of additional identity disturbance self-report measures should represent the domains of identity disturbance of interest. We recommend greater intentionality when developing hypotheses about aspects of identity functioning, as well as in choosing self-report measures that operationalize those constructs. This would assist with clarifying interpretations of findings, as well as creating general standards for selecting a particular identity functioning measure during study design.

Further, hypotheses about general identity functioning impairment could be investigated in future research with measures including items either a) well-representing multiple domains of identity disturbance, such as the Authenticity Scale (AS; Wood et al., 2008) or the General Assessment of Personality Disorders (GAPD; Hentschel & Livesley, 2013) or b) well-representing the Self-Alienation domain of identity disturbance (which closely aligns with the general factor),

such as the Borderline Identity Disturbance Self-Report (BIDS; Herr et al. 2014), Self-Concept and Identity Measure (SCIM; Kaufman et al., 2015), AS, or GAPD. Notably, the 12-item AS and the 59 identity impairment items of the GAPD meet both criteria, with items representing multiple domains of identity disturbance and items loading highly on the Self-Alienation factor and the general factor of Identity Disturbance. The GAPD and AS may therefore function particularly well as self-report measures of general identity disturbance. Overall, we recommend that future research on identity disturbance either focuses on general identity impairment (using measures that capture particularly self-alienation or multiple domains of identity functioning) or specific domains of identity functioning (using measures designed to capture the specific domains of interest). Intentional selection of identity functioning assessments in future research will allow further investigation into the relationship between theory and measurement in the structure of identity disturbance.

Appendix A Tables/Figures

Table 1. Examples of theoretical identity dimensions and how they are assessed

Dimension	Function	Dysfunction	Example Questionnaire Items
Self as the locus of experience (minimal/experiential self)	Subjective sense of ownership of one's body, emotions, thoughts, and actions such that actions are seen as volitional and corresponding to mental states.	Subjective sense that one's body, emotions, thoughts, or actions do not exist (e.g., the individual feels dead, disembodied, or unreal) or are invasively originating from an alien entity, another person, or a false self; accompanied by dissociative symptoms and deficits in awareness and processing of bodily signals.	ICI: "I feel solidly grounded in my body" (R)* AS: "I feel alienated from myself" BIDS: "I sometimes feel 'unreal' or that I am not actually myself"
Personal agency	Sense that the individual is an agent in the world, capable of changing the world to match their personal needs and desires, with behavior experienced as autonomous and goal-directed (e.g., in line with knowledge about personal goals).	Sense that one's personal agency has significantly less influence than external factors (e.g., uncontrolled circumstances, catastrophic events, other people's behavior); an experienced inability to make choices or form and work towards clear personal goals without external interference or influence.	GAPD: "I am powerless to influence what happens to me" GAPD: "I am a victim of fate and there is nothing that I can do about it" AS: "I live in accordance with my values and beliefs" (R) DSI: "I usually do what I believe is right, regardless of what others say" (R)
Accessibility of self-knowledge	Ability to pinpoint personal attributes, such as traits, behaviors, goals, physical characteristics, emotions, preferences, and social categories; a subjectively experienced presence of an identity.	Inability to describe clear attributes of a personal identity; a subjectively experienced lack of identity, or an identity deficit. For example, someone may feel unable to describe their personality when asked.	SCIM: "I have never really known what I believe or value" AS: "I feel as if I don't know myself very well" SCCS: "Even if I wanted to, I don't think I could tell someone what I'm really like" PAI-BOR: "I often wonder what I should do with my life" SIPP: "One of my problems is that I lack clear goals in my life"

Table 1. Examples of theoretical identity dimensions and how they are assessed (continued)

Sense of purpose	Beliefs about self and the world are clear and coherent enough to construct a coherent worldview and meaning in life; goal-directed actions are experienced as contributing to a larger meaning; a subjective sense of purpose in life.	Beliefs about self and the world do not contribute to a coherent worldview or meaning in life; actions are experienced as purposeless; a subjective sense of inner emptiness and global meaninglessness.	GAPD: "My life seems to have little meaning" SIPP: "I often feel that my life is meaningless" PAI-BOR: "Sometimes I feel terribly empty inside"
Coherence of self-knowledge	Diverse personal attributes feel reconcilable within and across contexts; thoughts, behaviors, and emotions are experienced as congruent; the individual can make overall evaluations about who they are based on how their personal attributes fit together. For example, someone who sees themselves as both a parent and a worker may experience their goals within these roles as different, but compatible with their overall evaluation of who they are and their purpose in life.	Personal attributes are experienced as irreconcilable; thoughts, behaviors, and emotions are experienced as directly conflicting with each other; some personal attributes may be evaluated as intensely positive while others are intensely negative; experienced as internal conflict about identity and/or intense shifts between irreconcilably conflicting identities; the individual has difficulty maintaining overall evaluations about how their different opinions of themselves fit together. For example, someone who sees themselves as both a parent and a worker may experience their goals in these roles as irreconcilably conflicting. Further, they may see themselves as an extremely bad parent and extremely good worker and feel intensely conflicted over whether they are overall good or bad.	SCIM: "I feel like a puzzle and the pieces don't fit together" GAPD: "I have very contradictory feelings about myself" PSQ: "I feel I am split between two (or more) ways of being, sharply differentiated from each other" SCCS: "My beliefs about myself often conflict with one another" LPFS: "There are parts of my personality that just don't fit together very well" BIDS: "My beliefs often seem to go against my actions" SI: "Sometimes I feel 'pulled apart' by my feelings about myself" SIPP: "I know exactly who I am and what I am worth" (R)

Table 1. Examples of theoretical identity dimensions and how they are assessed (continued)

Stability and continuity over time and across contexts	Identity is experienced as consistent over time and across contexts, allowing for a sense of personal continuity; accompanied by observable stability in personal attributes, independent of context.	Identity is experienced as context-dependent and unstable over time, disrupting a sense of personal continuity; accompanied by observable fluctuations in personal attributes over time and in varying social and emotional contexts.	SCCS: "If I were asked to describe my personality, my description might end up being different from one day to another day" SI: "My feelings about myself are very powerful, but they can change from one moment to the next" PSQ: "My mood can change abruptly in ways which make me feel unreal or out of control" IPO: "I fluctuate between being warm and giving at some times, and being cold and indifferent at other times" SCIM: "I change a lot depending on the situation" ICI: "While out of town, I become quite a different person" GAPD: "My goals in life change depending on the mood I am in"
Narrative continuity	A sense of personal continuity over time; accompanied by a coherent life story that integrates past, present, and future versions of the self.	A sense that the self is not continuous over time; accompanied by difficulty explaining how past, present, and future selves relate to each other to form a single, continuous existence; includes an inability to explain the role of important life events in shaping identity over time.	IPO: "My life, if it were a book, seems to me more like a series of short stories written by different authors than like a long novel" SCIM: "When I remember my childhood, I feel connected to my younger self" (R) SIPP: "One of my problems is that I lack a proper insight in the meaning of some experiences I had as a child"

Table 1. Examples of theoretical identity dimensions and how they are assessed (continued)

Self-other differentiation	A sense that one is distinct from other people, with a personal identity that is congruent with the individual's needs and provides a stable source for goal-directed behavior and meaning in life. For example, someone may experience emotionally intimate relationships with romantic partners and still distinguish their needs from their partner's needs.	A sense that the individual is not distinct from other people; confusion distinguishing one's own attributes from those of other people; accompanied by fears of fragile identity being consumed by the more stable identities of other people; overly identifying with other people for a sense of self-worth and a template for behavior, rather than being able to draw on one's own identity, which may manifest as distinct changes in attributes to match specific other people/groups, or hyper-investment in specific social roles as the entire source of one's identity; perceived abandonment, instability in relationships, or loss of social identification are experienced as a loss of personal identity. For example, someone may feel incapable of distinguishing their needs from another person's needs in a romantic relationship.	BIDS: "I feel like I am a different person depending on the person or people who I am with" SCIM: "I imitate other people instead of being myself" DSI: "When my spouse or partner is away for too long, I feel like I am missing a part of me" GAPD: "Sometimes I confuse other people's ideas with my own" IPO: "In the course of an intimate relationship, I'm afraid of losing a sense of myself" LPFS: "Feedback from others plays a big role in determining what is important to me" GAPD: "Other people have a big influence on how I feel about myself" PAI-BOR: "I can't handle separation from those close to me very well"
*(R) indicates the item is reverse-scored when assessing identity disturbance.			

Table 2. Sample demographics

Sex at Birth	Number	%
Male	150	24%
Female	474	75%
Gender Identity		
Cisgender Man	145	23%
Cisgender Woman	455	72%
Total Cisgender	*600*	*95%*
GM Woman	13	2%
GM Man	0	0%
Transmasculine	1	0.10%
Transfeminine	2	0.30%
Gender queer	8	1%
Gender fluid	2	0.30%
Nonbinary	14	2%
Total Gender Minority	*32*	*5%*
Sexual Identity		
Straight	459	73%
Total Heterosexual	*442*	*70%*
Gay	21	3%
Lesbian	22	3%
Total Monosexual Minority	*42*	*7%*
Bisexual	87	14%
Pansexual	18	3%
Queer	32	5%
Total Multisexual Minority	*98*	*15%*
Questioning	57	9%
Prefer not to Answer	3	0.50%
Demisexual	1	0.10%
Total Unique Other Minority	*26*	*4%*
Race/Ethnicity		
White	498	78%
Asian	106	17%
Black/African American	56	9%
Other	21	3%
American Indian or Alaskan Native	9	1%
Native Hawaiian or Other Pacific Islander	2	0.03%
Multiracial	75	12%
Hispanic	47	7%

Table 3. Identity functioning self-report measures

Measure	*Identity Functioning Construct(s)*	*Total Items*	*Identity Items*	*Reference*
Identity Consolidation Inventory (ICI)*	Identity consolidation along multiple dimensions: (1) Subjective self-sameness; (2) consistent attitudes and behavior; (3) stable body image; (4) authenticity; (5) temporal continuity; (6) ethnicity and conscience	30[a]	30	Samuel & Akhtar (2009)
Personality Structure Questionnaire (PSQ)	Sense of self: (1) differing self-states; (2) mood variability; (3) behavioral loss of control	8	8	Pollock et al. (2001)
Sense-of-Self Behavior and Experiences Scale (SOSS)	Weakness in sense of self: (1) lack of understanding of oneself; (2) sudden shifts in feelings, opinions, and values; (3) tendency to confuse one's feelings, thoughts, and perspectives with those of others; (4) feeling of tenuous existence	12	12	Flury & Ickes (2007)
Authenticity Scale (AS)	Authenticity: (1) authentic living; (2) accepting external influence; (3) self-alienation	12	12	Wood et al. (2008)
The Splitting Index (SI)	Tendency to see oneself or others as all good or all bad: (1) splitting of self-images; (2) splitting of family images; (3) splitting of others' images	24	8	Gould et al. (1996)
Self-concept and Identity Measure (SCIM)	Identity dysfunction: (1) Consolidated identity: Feeling whole (in the present and across time); (2) Disturbed identity: identity confusion and discontinuity; (3) Lack of identity: feeling of non-existence	27	27	Kaufman et al. (2015)
Brief Self-Pluralism Scale (BSPS)	Degree of variability in sense of self in different situations	10	10	McReynolds et al. (2000)
Borderline Identity Disturbance Self-Report (BIDS)	Identity disturbance in BPD, based on Wilkinson-Ryan & Westen (2000) observer-report structure; (1) painful incoherence; (2) inconsistency; (3) role absorption; (4) lack of commitment	7	7	Herr et al. (2014)
Self-Concept Clarity Scale (SCCS)	Sense that self-beliefs are clearly defined, consistent, and stable	12	12	Campbell et al. (1996)
Sexual Self-Concept Ambiguity Scale (SSAS)	Sense that sexual orientation is clearly defined, consistent, and stable	10	10	Talley & Stevens (2017)

Table 3. Identity functioning self-report measures (continued)

Differentiation of Self Inventory (DSI)	Ability to distinguish one's identity and needs from those of another person: (1) Emotional reactivity; (2) "I" position; (3) Emotional cutoff; (4) Fusion with others	43	11	Skowron & Friedlander (1998)
Stability of Self Scale - Revised (RSSS)	Stability in self-esteem	10	10	Rosenberg (2015)
Integrative Self-Knowledge Sale (ISKS)	Ability to integrate past and present self-knowledge	12	12	Ghorbani et al. (2008)
Personality Assessment Inventory – Borderline Features (PAI-BOR)	Features of BPD including identity disturbance, negative relationships, impulsivity/self-harm behaviors, and affect instability	24	6	Morey (1991)
Inventory of Personality Organization (IPO)	Identity subscale: identity diffusion (21 items); Other subscales: reality testing, primitive psychological defenses	57	12	Kernberg & Clarkin (1995)
Severity Indices of Personality Problems (SIPP-118)	Self-control subscale: (1) emotion regulation; (2) effortful control; (3) stable self-image; (4) self-reflexive functioning; (5) aggression regulation. Identity integration subscale: (1) enjoyment; (2) purposefulness; (3) self-respect; (4) frustration tolerance. Other subscales: Relational capacities, Responsibility, and Social concordance	118	65	Verheul et al. (2008)
General Assessment of Personality Disorders (GAPD)	self/identity problems in 4 facet scales: (1) differentiation; (2) integration; (3) consequences of self pathology (4) self-directedness. Additionally includes 4 facets of interpersonal dysfunction.	83	59	Hentschel & Livesley (2013)
Levels of Personality Functioning Scale (LPFS)	Impairments in identity, self-direction, empathy, and intimacy	80	44	Morey (2017)
	*gender items are removed for scale administration in this study; [a]5 items from the gender dimension were removed from the original 35-itme scale			

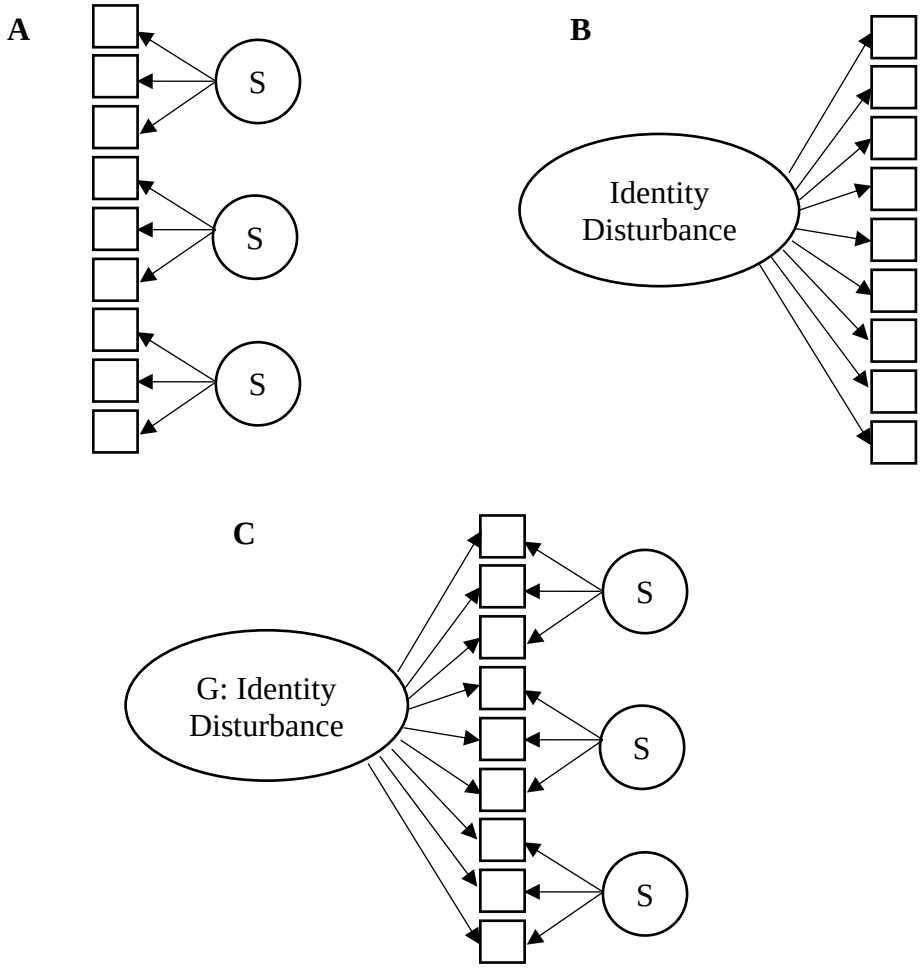

Figure 1. Example of the potential models emerging from the exploratory factor analysis Rectangles represent sense of self/identity disturbance items (I = 344); Ovals represent latent factors; .Dotted lines represent relationships between latent factors; Solid lined represent correlations between variables and factors. Model A represents a multidimensional structure, with multiple factors arising from the exploratory factor analysis, indicating different dimensions of identity disturbance. Model B represents a unidimensional structure, with a single factor for identity disturbance. Model C represents a bifactor hierarchical structure, with a general factor for identity disturbance and multiple specific factors.

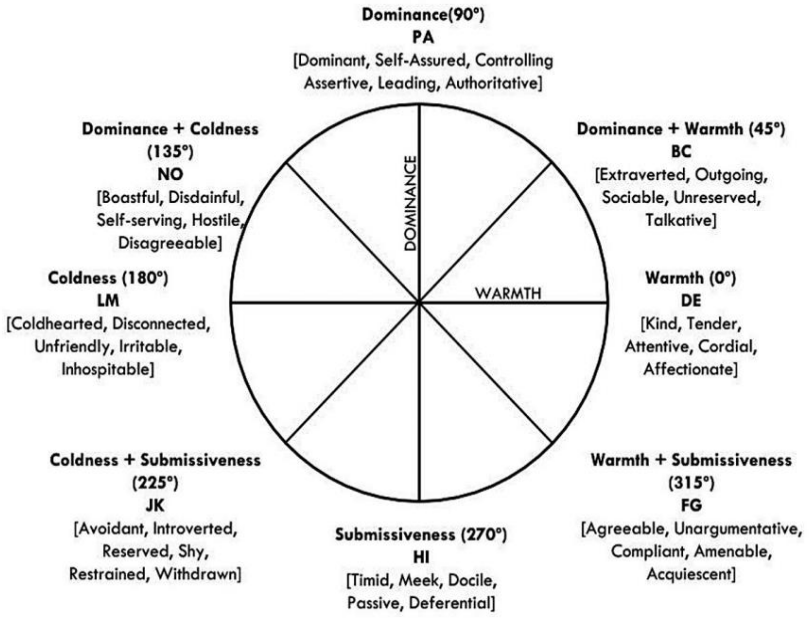

Figure 2. Interpersonal Circumplex demonstrating axes of dominance/agency and warmth/communion. Adapted from Kehl et al. (2021).

Table 4. Descriptive statistics

Measure	Mean	SD	Range	std cronbach's alpha
DERS	2.5	0.7	1.00 to 4.57	0.87
BFI E	3.21	0.95	1.33 to 5.00	0.64
BFI A	3.82	0.78	1.00 to 5.00	0.58
BFI C	3.43	0.89	1.33 to 5.00	0.61
BFI N	3.22	1.03	1.0 to 5.00	0.74
BFI O	3.74	0.75	1.33 to 5.00	0.39
CSIP Agency	-0.21	0.42	-1.41 to 1.09	0.92
CSIP Communion	0.12	0.4	-1.20 to 1.27	0.92
CSIP Elevation	0.87	0.5	0.00 to 2.50	0.92
CSIV Agency	-0.32	0.65	-2.50 to 1.52	0.89
CSIV Communion	1.38	0.9	-1.32 to 3.70	0.89
CSIV Elevation	1.9	0.54	0.00 to 3.78	0.89

Table 5. Identity Disturbance factor summary

	4-Factor Solution					Bifactor Rotation				
Self-Alienation (SA): Top 10 Items	SA	EI	SD	CSE		g	SA	EI	SD	CSE
AS10: I feel out of touch with the 'real me.'	**0.92**	0.04	-0.17	0.01		0.80	**0.33**	-0.01	-0.13	-0.06
GAPD74: Nothing about me feels real.	**0.91**	-0.13	-0.01	-0.21		0.85	**-0.01**	-0.17	-0.07	-0.14
AS12: I feel alienated from myself.	**0.90**	0.00	-0.17	-0.06		0.76	**0.25**	-0.05	-0.14	-0.10
GAPD47: My life seems to have little meaning.	**0.90**	-0.07	-0.09	-0.17		0.81	**-0.17**	-0.11	-0.15	-0.03
GAPD67: Most of the time I don't feel as if I am in touch with the real me.	**0.90**	-0.01	-0.03	-0.12		0.87	**0.05**	-0.06	-0.08	-0.08
SCIM26: I feel like a puzzle and the pieces don't fit together.	**0.89**	-0.09	0.05	-0.02		0.88	**0.00**	-0.12	-0.02	0.05
SCIM23: I feel empty inside, like a person without a soul.	**0.89**	-0.20	0.04	-0.12		0.82	**-0.07**	-0.22	-0.04	-0.02
BIDS3: I sometimes feel "unreal" or that I am not actually myself.	**0.89**	-0.01	-0.14	0.08		0.76	**0.33**	-0.04	-0.11	0.02
SI4: Sometimes I am not sure who I am.	**0.87**	-0.01	0.01	0.12		0.85	**0.21**	-0.04	-0.02	0.10
BIDS2: I tend to feel like I do not know who my own self is.	**0.87**	0.12	-0.13	0.06		0.82	**0.31**	0.07	-0.11	0.00
Susceptibility to External Influence (EI): Top 10 Items	SA	EI	SD	CSE		g	SA	EI	SD	CSE
AS4: I usually do what other people tell me to do.	0.03	**0.77**	0.01	0.07		0.42	-0.01	**0.66**	-0.05	0.04
AS3: I am strongly influenced by the opinions of others.	0.07	**0.73**	0.07	0.16		0.48	0.07	**0.63**	0.01	0.10
ICI18: I follow others' ideas rather than my own.	0.02	**0.73**	0.02	-0.04		0.40	-0.01	**0.62**	-0.04	-0.07
AS6: Other people influence me greatly.	0.03	**0.72**	0.04	0.21		0.41	0.05	**0.63**	0.00	0.17
GAPD79: My opinions are influenced by the person I am with.	0.02	**0.63**	0.22	-0.03		0.50	0.00	**0.53**	0.10	-0.06
ICI19: I imitate others rather than act like myself.	0.14	**0.61**	0.07	-0.07		0.50	0.02	**0.51**	0.00	-0.10
SCIM4: I try to act the same as the people I'm with (interests, music, dress) and I change that all the time.	0.09	**0.49**	0.32	-0.02		0.58	-0.08	**0.42**	0.17	-0.01
GAPD40: I find myself watching other people very carefully to help me to decide what I should feel and do.	0.30	**0.49**	0.01	-0.01		0.56	-0.09	**0.41**	-0.06	0.04
IPO28: When others see me as having succeeded, I'm elated, and when they see me as failing, I feel devastated.	0.38	**0.21**	-0.01	0.38		0.47	-0.03	**0.19**	-0.02	0.44

Table 5. Identity Disturbance factor summary (continued)

GAPD57: The goals that I set for myself do not feel as if they are really mine.	0.51	**0.20**	0.07	-0.20		0.68	-0.16	**0.13**	-0.03	-0.12
Self-Dysregulation (SD): Top 10 Items	SA	EI	SD	CSE		g	SA	EI	SD	CSE
SIPP69: Other people have commented that sometimes I behave out of character.	0.01	-0.01	**0.86**	-0.12		0.65	-0.02	-0.03	**0.57**	-0.16
SIPP43: I often find myself behaving in ways that are out of character.	0.02	0.03	**0.83**	-0.14		0.65	-0.04	0.01	**0.54**	-0.16
SIPP79: I often cannot help expressing my moods inappropriately.	0.05	-0.01	**0.81**	0.06		0.64	0.03	-0.02	**0.55**	0.02
SIPP67: Others have told me that I should try harder to avoid losing control over my feelings.	0.00	-0.08	**0.80**	0.06		0.56	-0.04	-0.07	**0.54**	0.04
SIPP107: I often act impulsively even though I know I will regret it later on.	-0.02	0.08	**0.77**	0.12		0.58	0.00	0.06	**0.52**	0.09
SIPP94: The way I feel or behave is often very unpredictable.	0.10	-0.07	**0.75**	-0.08		0.62	0.11	-0.08	**0.51**	-0.16
SIPP41: I frequently say things I regret later.	-0.04	0.06	**0.72**	0.08		0.53	-0.08	0.05	**0.47**	0.08
SIPP52: I have such strong feelings that I easily lose control of them.	0.17	-0.04	**0.70**	0.18		0.66	0.03	-0.04	**0.48**	0.15
IPO24: I do things on impulse that I think are socially unacceptable.	0.03	0.05	**0.70**	-0.07		0.57	0.04	0.03	**0.46**	-0.12
SIPP80: I seem to do things that I regret more often than other people do.	0.15	0.13	**0.69**	0.01		0.73	-0.05	0.10	**0.44**	0.01
Contingent Self-Esteem (CSE): Top 10 Items	SA	EI	SD	CSE		g	SA	EI	SD	CSE
LPFS65: Sometimes I am too harsh on myself.	0.38	0.06	-0.12	**0.60**		0.29	0.12	0.07	-0.05	**0.60**
LPFS77: When I'm not doing well at something, I might get very angry or feel ashamed about my abilities.	0.40	0.09	0.04	**0.46**		0.45	-0.10	0.08	0.01	**0.56**
IPO28: When others see me as having succeeded, I'm elated and, when they see me as failing, I feel devastated.	0.38	0.21	-0.01	**0.38**		0.47	-0.03	0.19	-0.02	**0.44**
SI5: My feelings about myself are very powerful, but they can change from one moment to the next.	0.56	0.00	0.21	**0.25**		0.69	0.25	-0.01	0.16	**0.19**
PSQ7: I get into states in which I lose control and do harm to myself and/or others.	0.06	-0.19	0.55	**0.24**		0.36	0.08	-0.16	0.40	**0.20**

Table 5. Identity Disturbance factor summary (continued)

AS6: Other people influence me greatly.	0.03	0.72	0.04	**0.21**		0.41	0.05	0.63	0.00	**0.17**
GAPD1: I have very contradictory feelings about myself.	0.73	0.03	-0.02	**0.21**		0.70	0.21	0.01	-0.02	**0.18**
SCC3: I spend a lot of time wondering about what kind of person I really am.	0.75	0.04	-0.02	**0.20**		0.73	0.16	0.01	-0.03	**0.20**
GAPD63: Sometimes I feel as if I am falling apart.	0.78	-0.07	0.05	**0.20**		0.77	-0.01	-0.09	0.00	**0.27**
SIPP70: I often feel that I am not as worthy as other people.	0.60	0.01	0.17	**0.20**		0.73	-0.13	-0.01	0.07	**0.31**
SA = self-alienation; EI = susceptibility to external influence; SD = self-dysregulation; CSE = contingent self-esteem; g = general factor										

Table 6. Factor score correlations for Identity Disturbance and Identity Clarity

Factor	SA	EI	SD	CSE	SC	RF	AL
SA	1	-	-	-	-	-	-
EI	**0.51**	1	-	-	-	-	-
SD	**0.72**	**0.33**	1	-	-	-	-
CSE	-0.03	0	0	1	-	-	-
SC	**-0.71**	**-0.34**	**-0.51**	**-0.19**	1	-	-
RF	**-0.5**	**-0.44**	**-0.44**	**0.27**	**0.56**	1	-
AL	**-0.16**	**-0.14**	**-0.14**	**0.25**	**0.22**	**0.45**	1

***p*<.001**; SA = Self Alienation; EI = Susceptibility to External Influence; SD = Self-Dysregulation; CSE = Contingent Self-Esteem; SC = Self-Consistency; RF = Reflective Functioning; AL = Authentic Living

Table 7. Identity Clarity factor summary

	3 Factor Solution				Bifactor Rotation			
Self-Consistency (SC): Top 10 Items	SC	RF	AL		g	SC	RF	AL
ICI12: Looking in the mirror, I appear about the same each time.	**0.66**	-0.07	0.12		0.48	**0.21**	-0.39	-0.01
ICI11: I feel solidly grounded in my body.	**0.58**	0.11	0.08		0.57	**0.10**	-0.32	-0.03
ICI1: My mental picture of myself remains about the same.	**0.57**	0.03	0.11		0.50	**0.17**	-0.31	0.00
BSPS2: I act and feel essentially the same way whether at home, at work, or with friends.	**0.54**	0.02	0.33		0.56	**0.06**	-0.33	0.20
BSPS5: I am the same kind of person in every way, day in and day out.	**0.53**	-0.03	0.34		0.51	**0.06**	-0.34	0.21
DSI23: I'm fairly self-accepting.	**0.49**	0.19	0.12		0.60	**0.23**	-0.19	0.01
DSI7: No matter what happens in my life, I know that I'll never lose my sense of who I am.	**0.49**	0.24	0.22		0.69	**0.07**	-0.22	0.10
BSPS3: I'm the same sort of person regardless of whom I'm with.	**0.47**	0.00	0.42		0.53	**0.00**	-0.31	0.29
SIPP4: I know exactly who I am and what I am worth.	**0.47**	0.42	-0.04		0.72	**-0.11**	-0.22	-0.12
SCIM15: I know who I am.	**0.41**	0.51	0.02		0.79	**-0.19**	-0.19	-0.06
Reflective Functioning (RF): Top 10 Items	SC	RF	AL		g	SC	RF	AL
ISKS2: What I have learned about myself in the past has helped me to respond better to difficult situations.	-0.41	**0.85**	0.02		0.52	-0.04	**0.55**	0.06
ISKS3: If I need to, I can reflect about myself and clearly understand the feelings and attitudes behind my past behaviors.	-0.27	**0.78**	0.03		0.56	0.04	**0.46**	0.05
LPFS4: Although I might have different feelings at different times, I can handle all of them pretty well.	-0.03	**0.68**	-0.21		0.54	0.32	**0.38**	-0.23
SIPP84: I feel proud of some things I have accomplished in my life.	-0.02	**0.66**	0.01		0.62	-0.21	**0.15**	0.00
LPFS51: I've got goals that are reasonable given my abilities.	-0.13	**0.66**	-0.03		0.52	-0.02	**0.30**	-0.02
SIPP9: I strongly believe that life is worth living.	0.19	**0.65**	-0.20		0.67	-0.25	**-0.02**	-0.23

Table 7. Identity Clarity factor summary (continued)

SCIM17: At least one person sees me for who I really am.	0.01	**0.62**	0.05		0.61	-0.31	**0.08**	0.03
SCIM13: I always have a good sense about what is important to me.	0.00	**0.61**	0.23		0.68	-0.23	**0.12**	0.19
SIPP19: Most of the time, I understand why I do the things I do.	0.13	**0.61**	-0.10		0.63	-0.02	**0.10**	-0.13
SIPP30: I can find ways to express my feelings appropriately even if they are strong.	0.01	**0.61**	-0.10		0.55	0.02	**0.20**	-0.11
Authentic Living (AL): Top 10 Items	SC	RF	AL		g	SC	RF	AL
AS8: I always stand by what I believe in.	0.08	0.10	**0.62**		0.43	-0.11	-0.06	**0.54**
AS9: I am true to myself in most situations.	0.19	0.16	**0.59**		0.55	-0.06	-0.10	**0.49**
DSI41: I usually do what I believe is right regardless of what others say.	-0.01	0.19	**0.58**		0.44	0.00	0.07	**0.51**
AS11: I live in accordance with my values and beliefs.	-0.02	0.25	**0.51**		0.46	-0.08	0.07	**0.45**
AS1: I think it is better to be yourself than to be popular.	-0.09	0.21	**0.42**		0.32	-0.05	0.12	**0.39**
BSPS3: I'm the same sort of person regardless of whom I'm with.	0.47	0.00	**0.42**		0.53	0.00	-0.31	**0.29**
DSI31: I'm less concerned that others approve of me than I am about doing what I think is right.	0.03	0.14	**0.38**		0.33	0.17	0.09	**0.32**
ICI26: My moral beliefs do not easily get altered by external circumstances.	-0.02	-0.02	**0.37**		0.14	0.11	0.05	**0.32**
ICI30: While accepting other's beliefs, I take pride in my own religion.	0.21	-0.04	**0.36**		0.28	0.09	-0.12	**0.28**
BSPS5: I am the same kind of person in every way, day in and day out.	0.53	-0.03	0.34		0.51	0.06	-0.34	**0.21**
SC = self-consistency; RF = reflective functioning; AL = authentic living; g = general factor								

Table 8. Results of exploratory structural equation modeling examining relationships between identity factors and external correlates

	Identity Disturbance										Identity Clarity							
	4 Factor Solution					Bifactor Rotation					3 Factor Solution				Bifactor Rotation			
	SA	EI	SD	CSE		g	SA	EI	SD	CSE		SC	RF	AL		g	SC	RF	AL
DERS	**0.67**	**0.32**	**0.57**	**0.20**		**0.67**	**0.11**	0.00	**0.12**	0.22		**-0.65**	**-0.43**	-0.07		**-0.55**	-0.10	**0.31**	**0.19**
BFI: E	**-0.35**	**-0.30**	**-0.11**	0.13		**-0.36**	0.09	**-0.12**	**0.24**	0.07		**0.33**	**0.32**	**0.17**		**0.37**	-0.13	**-0.14**	0.01
BFI: A	**-0.25**	0.08	**-0.40**	0.11		**-0.26**	0.09	**0.23**	**-0.29**	0.10		**0.24**	**0.29**	0.11		**0.31**	**-0.17**	-0.06	-0.03
BFI: C	**-0.44**	**-0.25**	**-0.45**	0.03		**-0.46**	0.08	-0.03	**-0.15**	0.00		**0.44**	**0.32**	0.08		**0.40**	-0.07	**-0.23**	-0.11
BFI: N	**0.69**	**0.28**	**0.53**	**0.37**		**0.67**	0.10	-0.05	0.06	**0.40**		**-0.74**	**-0.34**	0.07		**-0.50**	-0.23	**0.43**	**0.32**
BFI O	-0.10	**-0.16**	**-0.15**	**0.14**		**-0.13**	**0.23**	**-0.11**	-0.07	0.09		0.05	**0.20**	**0.14**		**0.18**	-0.11	0.08	0.07
CSIP: A	**-0.33**	**-0.41**	0.02	-0.07		**-0.32**	0.02	**-0.28**	**0.37**	**-0.13**		**0.26**	**0.16**	0.13		**0.22**	0.00	**-0.17**	0.03
CSIP: C	**-0.13**	0.08	**-0.13**	**0.30**		**-0.15**	**0.17**	**0.19**	0.00	**0.24**		0.06	**0.18**	0.06		**0.16**	**-0.21**	0.04	-0.01
CSIP: E	**0.53**	**0.32**	**0.53**	0.06		**0.55**	-0.06	0.07	0.18	**0.10**		**-0.42**	**-0.29**	-0.07		**-0.37**	0.05	**0.23**	**0.10**
CSIV: A	**-0.34**	**-0.45**	**-0.14**	**-0.19**		**-0.33**	-0.01	**-0.33**	**0.15**	**-0.22**		**0.36**	**0.17**	**0.14**		**0.26**	**0.15**	**-0.23**	0.06
CSIV: C	**-0.24**	-0.05	**-0.34**	**0.35**		**-0.27**	**0.21**	0.11	**-0.18**	**0.31**		0.09	**0.43**	**0.23**		**0.35**	**-0.32**	**0.19**	0.06
CSIV: E	**0.23**	**0.26**	**0.24**	**0.24**		**0.23**	0.10	**0.19**	**0.12**	**0.22**		-0.07	0.09	**0.12**		0.05	-0.12	0.13	0.10

Values bolded at $p < .01$.
DERS = Difficulties in Emotion Regulation Scale (DERS); BFI = Big Five Inventory; BFI: E = Extraversion; BFI: A = Agreeableness; BFI: C = Conscientiousness; BFI: N = Negative Emotionality; BFI: O = Open-mindedness; CSIP = Circumplex Scale of Interpersonal Problems; CSIP: A = interpersonal problems with agency; CSIP: C = interpersonal problems with communion; CSIP: E = Elevation of interpersonal problems; CSIV = Circumplex Scale of Interpersonal Values; CSIV: A = interpersonal values of agency; CSIV: C = interpersonal values of communion; CSIV: E = Elevation of interpersonal values.

Appendix B Supplemental Contents

Supp1. *Self Items Raw Data*: This sheet includes the raw data for all 344 initial identity functioning items. Missing responses are coded as "NA."

Supp2. *Correlations >.8*: This sheet includes the output of the polychoric correlation matrix calling for correlations >.8.

Supp3. *318 Retained Self Items*: This sheet includes a list of the 318 identity functioning items after removing highly correlated items (and the full Sexual Self-Concept Ambiguity Scale).

Supp4. *249 Disturbance Items*: This sheet includes a list of all 249 positively keyed Identity Disturbance items and their corresponding scales.

Supp5. *Disturbance Factors 1-11*: This sheet includes the factor loadings for an EFA requesting factor solutions 1 through 11 with the 249 Identity Disturbance items.

Supp6. *249 Disturbance 4F Solution:* This sheet includes factor loadings of the 249 Identity Disturbance items for the 4-factor EFA and the bifactor rotation. Additionally, it indicates which items had primary factor loadings of at least .5 with secondary loadings of less than .3 that were retained for the next level of analyses.

Supp7. *249 Disturbance 4F Summary*: This sheet includes a summary of factor loadings for the top 15 items in each factor resulting from EFAs with the 249 Identity Disturbance items. Factors include SA (Self-Alienation), EI (Susceptibility to External Influence), SD (Self-Dysregulation), CSE (Contingent Self-Esteem), and g (the general factor of Identity Disturbance).

Supp8. *113 Disturbance 4F Solution*: This sheet includes factor loadings of the 113 Identity Disturbance items for the 4-factor EFA and the bifactor rotation.

Supp9. *69 Clarity Items*: This sheet includes a list of the 69 negatively keyed Identity Clarity items and their corresponding scales.

Supp10. *Clarity Factors 1-11*: This sheet includes the factor loadings for an EFA requesting factor solutions 1 through 11 with the 69 Identity Clarity items.

Supp11. *Clarity 3F Solution*: This sheet includes factor loadings of the 69 Identity Clarity items for the 3-factor EFA and bifactor rotation.

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