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Examining Criterion A: DSM-5 Level of Personality Functioning as Assessed through Life Story Interviews

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by

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ABSTRACT OF THE THESIS

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Several studies have examined the Level of Personality Functioning Scale (LPFS) from the *DSM-5* as rated using diagnostic interviews conducted by trained clinicians (Few et al., 2013; Zimmermann et al., 2014). These studies have demonstrated the reliability and validity of the LPFS, but suffer from a common limitation, namely, that diagnostic interviews probe specifically for information pertaining to functioning. This probing may inflate reliability and introduce confounds into the assessment of functioning. The purpose of the current analyses is to examine the reliability and validity of personality functioning ratings obtained in the absence of information pertaining to personality disorder criteria. The current analyses use a subsample of 163 participants from the St. Louis Personality and Aging Network, a longitudinal study of personality, health and aging in older adults. The subsample consisted of participants that demonstrated some level of personality pathology as assessed by the Structured Clinical Interview for *DSM-IV* Personality, as well as controls matched on race, gender and level of education. Naive undergraduate students rated video recordings of Life Story Interviews, using a 12-item version of the LPFS. The ICCs (1,5) were .73 for self-functioning and .56 for

interpersonal functioning, indicating fair to good reliability. LPFS subscales showed theoretically consistent associations with *DSM-IV* PD types, and contributed significant variance to the prediction of certain PD symptoms over and above adaptive range personality traits. The present findings demonstrate that the LPFS can capture personality functioning without probing for pathological content. As such, they have important implications for the revision and implementation of the *DSM-5* Alternative Model for Personality Disorders.

Chapter 1: Introduction

The Alternative Model for Personality Disorders has garnered significant research attention since its inclusion in Section III of the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* (*DSM-5*; American Psychiatric Association, 2013). The majority of this research has focused on the pathological personality traits introduced under Criterion B, which represent the unique style of pathology experienced by the individual (Krueger & Markon, 2014). Comparatively little research has examined the personality functioning criterion, Criterion A (Krueger, Hopwood, Wright, & Markon, 2014). The conflation of personality functioning, or the severity of pathology, with the pattern of traits and symptoms that characterize this pathology, was a major limitation of the *DSM-IV* model of personality disorders (PDs; Parker et al., 2004; Tyrer et al., 2011). In particular, *DSM-IV* PD types[1] exhibit a high degree of comorbidity, partially due to non-specific aspects of functioning cutting across diagnostic categories (Hopwood et al., 2011). By separating out a dimension of severity from the pattern of pathological personality traits that characterized the disorder, the degree of diagnostic overlap may be reduced and a more accurate clinical conceptualization may be developed.

Although personality traits and functioning can be conceptualized separately, they are difficult to distinguish empirically (Clark & Ro, 2014). As such, the development of a personality functioning model for *DSM-5* integrated a variety of theoretical approaches, and items for the Level of Personality Functioning Scale (LPFS) included in the *DSM-5* were selected on the basis of empirical analyses (Bender, Skodol, & Morey, 2011; Morey et al., 2011). The LPFS consists of two primary domains: self and interpersonal functioning, each defined by two subdomains.

[1] The model of PDs from *DSM-IV* that is preserved in Section II of *DSM-5* will be referred to as the *DSM-IV* model for the sake of clarity.

The self domain is composed of problems with *identity* and *self-direction*, whereas the interpersonal domain is defined as consisting of problems with *empathy* and *intimacy*. The degree of impairment on each of these domains is indicated on a scale from 0 (*little or no*) to 4 (*extreme*), and a description of prototypical impairment is provided for each of these levels. As such, the subdomains can be separated even further. Identity involves the ability to maintain an autonomous self, establish stable self-esteem, and regulate emotional experience. Features of Self-Direction include pursuing appropriate goals, setting standards for one's behavior, and engaging in self-reflection. Empathy includes understanding others' perspectives, being open to their attitudes, and understanding one's own effect on social interaction. Finally, Intimacy is further subdivided into maintaining personal and community relationships, intimate relationships, and being interpersonally cooperative. Taken together, these features of personality functioning provide an indicator of the types of problems an individual may be experiencing. As such, the LPFS has the potential to be a powerful clinical tool, if it can be found to reliably and validly assess these problems and provide additional information above and beyond pathological personality traits.

Research has already begun to examine the utility of the LPFS for assessing problems in personality functioning. One of the first studies to investigate Criterion A and B together found that Criterion A could be reliably assessed, but showed limited evidence of it's utility (Few et al., 2013). Using the LPFS, interviewers rated the personality functioning of patients during a structured diagnostic interview for the *DSM-IV* PD types. Interrater reliabilities for the LPFS subscales ranged between .47 and .49. However, the LPFS did not provide incremental validity over pathological personality traits in the prediction of *DSM-IV* PDs as assessed by diagnostic interview (Few et al., 2013). Another study examined the ability of inexperienced undergraduate

students to rate personality functioning using the LPFS based on video-recorded diagnostic interviews of ten psychotherapy inpatients (Zimmermann et al., 2014). In this study, interrater reliabilities for the LPFS subscales ranged from .25 to .63, and LPFS scores discriminated between patients with a PD diagnosis and those without (Zimmermann et al., 2014). Research using layperson and clinician raters and a 60-item other-report version of the LPFS demonstrated that the latent structure of the LPFS is roughly consistent with theoretical predictions, although some descriptions failed to convey the intended level of severity (Zimmermann et al., 2015). In addition, this particular study found that the self- and interpersonal domains were highly correlated, indicating that other-ratings may not differentiate these two forms of impairment to the same degree as self-ratings (Zimmermann et al., 2015). Overall, these studies provide a solid empirical foundation for the use of the LPFS in rating PD severity in clinical populations.

However, one common limitation in the literature is that personality functioning ratings are often obtained from diagnostic interviews for the *DSM-IV* PDs. Interviewers conducting diagnostic interviews for personality pathology will often ask questions that probe for personality functioning (Zimmermann et al., 2014). Probe questions may result in inflated estimates of reliability, as well as introduce a confounding element into the rating of personality functioning. If personality traits and symptoms are already difficult to distinguish from functioning assessing both at once with the same measure will likely result in a high degree of conceptual overlap. Another issue with this method of assessment is that few clinicians conduct structured diagnostic interviews with clients, despite only modest agreement between clinician diagnoses and diagnoses obtained using structured interview or questionnaire (Samuel, 2015). Relatively unstructured interviews may provide very different information about personality functioning than a semi-structured interview designed to assess PD. These limitations suggest that it is

important to examine the ability of the LPFS to produce reliable and valid ratings in the context of a less structured interview that may not explicitly address pathology.

The main aim of the current analyses was to examine the reliability and validity of LPFS ratings produced by naïve undergraduate raters on the basis of an open-ended, non-diagnostic interview. This procedure provides a strong test of the LPFS, in that the content of the interview is entirely determined by the participant. As such, aspects of personality functioning that arise in the interview are unlikely to be confounded with the assessment of PD symptoms or pathological personality traits. We hypothesized that personality functioning could be reliably assessed in this context, although reliabilities were likely to be lower than those obtained in previous research. Also, we expected to find that self and interpersonal functioning would differentially relate to different PD types and adaptive personality traits. We did not expect to find that LPFS ratings provided incremental validity over and above personality traits, given previous findings (Few et al., 2013).

Chapter 2: Method

2.1 Participants and Procedure

The current analyses use data from a subsample of 163 individuals participating in the St. Louis Personality and Aging Network (SPAN; for characteristics of the full sample, see Oltmanns, Rodrigues, Weinstein, and Gleason, 2014). In order to obtain a subsample with a wide range of pathology, we included participants who met criteria for one of the ten DSM-5 PDs as assessed by the Structured Clinical Interview for *DSM-IV* Personality (SIDP-IV). Due to low base rates of borderline, schizotypal and dependent PDs, participants were included if they met three or more of the relevant criteria. This decision is supported by previous research suggesting that, at least in the case of borderline PD, symptom counts below the threshold provided in the *DSM-5* are associated with significant impairment (Zimmerman, Chelminski, Young, Dalrymple, & Martinez, 2012). Once those participants exhibiting features of personality pathology were identified, we included a random subsample of participants matched on gender, race and education. Overall, the subsample was 56% female (n = 91). The majority of the participants were Caucasian (60%; n = 97), and 38% were Black/African American (n = 62).

We also used data from the informants of the participants included in our subsample (N = 145). Participants were instructed to nominate an informant that knew them well and could describe their personality. Informants were 66% female (n = 96) and 63% Caucasian (n = 91).

Five undergraduate raters (3 women, 2 men) were recruited to provide LPFS ratings on approximately forty video-recorded Life Story interviews each. Raters were trained to use the 12-item LPFS scale by watching two videos from participants that were not included in the

subsample, but that had been previously identified as exhibiting problems in personality functioning in the Life Story interview. Two separate raters rated each video in our subsample.

2.2 Measures

2.2.1 Life Story Interview (McAdams, 1993)

The Life Story Interview is designed to assess narrative identity. Trained interviewers administered an abbreviated version of this interview to the participants during the baseline assessment, prior to administering the Structured Interview for *DSM-IV* Personality. Interviewers asked the participants to divide their life into four chapters, give each chapter a title and describe what happened in each. They also asked the participant to describe a high point, low point, turning point, best character, and worst character in their life story. The interviews were video recorded with the consent of the participant.

2.2.2 Levels of Personality Functioning Scale (American Psychiatric Association, 2013; Bender et al., 2011)

The LPFS is a clinician-rated scale included in Section III of the *DSM-5*. The version provided by the *DSM-5* includes one item each for the subdomains of Identity, Self-Direction, Empathy, and Intimacy. These items are rated along a scale from 0 to 4, with a three-part description of personality functioning provided for each response option. For purposes of the current study, following Zimmermann et al. (2014), we split these descriptions into three separate items for each subdomain, resulting in a 12-item scale.

2.2.3 Structured Interview for *DSM-IV* Personality (Pfohl, Blum, & Zimmerman, 1997)

After the Life Story interview, the interviewers administered the SIDP-IV, a semi-structured, diagnostic interview for the assessment of PD symptoms. It consists of 80 items, each corresponding to a symptom of the ten *DSM-IV* PD categories. Interviewers rate the presence of

each symptom from 0 (*not present*) to 3 (*strongly present*). In order to obtain continuous scores for each PD type, we summed ratings across the relevant criteria. For an index of total PD symptoms, we added up the number of criteria endorsed by the participant at a level of two or higher. A one-way random, average measure intra-class correlation coefficient was calculated by having interviewers rate a randomly selected subsample of 265 interviews. Interrater reliability for the entire interview was .67, indicating good agreement between interviewers.

2.2.4 NEO-Personality Inventory-Revised (NEO-PI-R; Costa & McCrae, 1992)

A measure of the Five-Factor Model (FFM) of personality, the NEO-PI-R has 240 items measuring the domains of neuroticism, extraversion, openness, conscientiousness and agreeableness, as well as 30 lower-order facets (six for each domain). The NEO-PI-R has both self (Form S) and informant (Form R) versions. We used both versions in the current analyses. Participants responded on a scale from 0 to 4. Coefficient alphas for the self-report domains ranged from .75 (agreeableness) to .86 (neuroticism). For the informant report version, coefficient alphas ranged from .74 (openness) and .89 (conscientiousness).

2.2.4 Psychosocial Functioning

In order to compare the LPFS to other measures of psychosocial functioning, we used a variety of instruments. The Beck Depression Inventory (BDI-II; Beck, Steer, & Garbin, 1988) is a 21-item measure of depressive symptomatology. Responses range from 0 to 3. Coefficient alpha for the BDI-II was .89. Both self- and informant versions of the Social Adjustment Scale (SAS; Weissman & Bothwell, 1976; Weissman et al., 2001), another measure of psychosocial functioning, were administered as well. The self-report SAS contains 54 items, most of which are responded to on a 5-point scale. It produces scores for six domains of functioning, as well as an overall mean score. The current analyses used the overall mean score of the self-report SAS.

The informant report version contains eight items, answered on a five-point scale. Informants are instructed to answer regarding the participant's functioning within the last two weeks. Coefficient alpha for the informant report version was .69.

Chapter 3: Results

3.1 Interrater Reliability

We computed interrater reliability using one-way random, average measures intraclass correlation coefficient (Shrout & Fleiss, 1979). Reliability across raters was good for the self functioning domain, ICC [1,5] = .73, 95% CI [.66, .79], and fair for the interpersonal domain, ICC [1, 5] = .56, 95% CI [.44, .66]. ICC (1, 5) for the identity, self-direction, empathy, and intimacy scales were .69, .67, .59, and .49, respectively. Overall, these results indicate that LPFS ratings could be reliably obtained using this methodology.

3.2 Convergent and Discriminant Validity

Intercorrelations between the scales of the LPFS and *DSM-IV* PD symptoms as assessed by semi-structured interview are presented in Table 3.1. The self and interpersonal domains of the LPFS were strongly correlated. The four subscales of identity, self-direction, empathy and intimacy also exhibited strong correlations with each other. Both domains and all four subscales of the LPFS were moderately correlated with total PD criteria as assessed by the SIDP-IV. Looking at the two domains in particular, we found both were moderately correlated with schizoid, schizotypal, antisocial, and borderline PD symptoms. Both the self and interpersonal domains exhibited only a weak association with paranoid symptoms. The interpersonal domain, but not the self, was moderately correlated with narcissistic PD symptoms, whereas the self domain, but not the interpersonal, was associated with dependent PD symptoms.

Next, we examined the associations between the two domains and four subscales of the LPFS and measures of normal-range personality traits and psychosocial functioning (Table 3.2). Self- and informant report of neuroticism exhibited moderate correlations with the self domain (and in

Table 3.1 Correlations between LPFS domains and subscales and *DSM-IV* PD symptoms

	M (SD)	1	2	3	4	5	6
LPFS Domains and							
Subscales							
1. Self	3.65 (3.06)						
2. Interpersonal	2.59 (2.61)	.74***					
3. Identity	1.75 (1.66)	.91***	.66***				
4. Self-Direction	1.90 (1.70)	.91***	.68***	.66***			
5. Empathy	0.84 (1.29)	.65***	.91***	.57***	.61***		
6. Intimacy	1.75 (1.53)	.71***	.94***	.65***	.64***	.72***	
DSM-IV PD symptoms							
SIDP-IV total criteria	8.14 (5.69)	.34***	.33***	.35***	.27***	.27***	.34***
Paranoid	2.58 (2.78)	.18*	.19*	.19*	.14	.20*	.17*
Schizoid	2.23 (3.01)	.24**	.29***	.18*	.26***	.24**	.29***
Schizotypal	2.04 (2.64)	.26***	.26***	.20**	.28***	.22**	.27***
Antisocial	0.83 (2.04)	.23**	.23**	.14	.27***	.26***	.18*
Borderline	3.15 (3.60)	.29***	.23**	.31***	.22**	.19*	.24**
Histrionic	2.13 (2.78)	.11	.10	.13	.06	.12	.07
Narcissistic	3.24 (4.17)	.15	.25**	.15	.11	.28***	.20*
Avoidant	3.55 (5.06)	.10	.01	.13	.06	-.10	.11
Dependent	1.67 (2.58)	.21**	.07	.27***	.12	-.01	.12
Obsessive-Compulsive	3.79 (3.14)	-.05	-.07	-.05	-.05	-.05	-.09

Note. LPFS = Levels of Personality Functioning Scale. *DSM-IV = Diagnostic and Statistical Manual for Mental Disorders, 4th edition.* PD = personality disorder. $N = 163$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3.2 Correlations between LPFS domains and subscales, NEO-PI-R personality traits, and psychosocial functioning

	M (SD)	Self	Interpersonal	Identity	Self-Direction	Empathy	Intimacy
NEO-PI-R personality traits							
18. Neuroticism	88.50 (24.53)	.22**	.11	.26***	.13	.03	.17*
19. Extraversion	102.27 (24.05)	-.21**	-.12	-.20**	-.18*	-.02	-.19*
20. Agreeableness	125.28 (20.59)	-.20*	-.24**	-.11	-.25**	-.24**	-.21**
21. Conscientiousness	119.46 (20.48)	-.13	-.07	-.07	-.16*	-.02	-.11
22. Openness	111.25 (20.16)	-.10	-.03	-.05	-.13	.03	-.07
NEO-PI-R personality traits – Informant Report							
18. Neuroticism	91.94 (28.14)	.28***	.15	.32***	.19*	.11	.17*
19. Extraversion	105.62 (23.89)	-.15	-.02	-.15	-.13	.07	-.10
20. Agreeableness	120.46 (25.63)	-.19*	-.20*	-.14	-.20*	-.20*	-.18*
21. Conscientiousness	120.45 (29.03)	-.28***	-.19*	-.25**	-.26**	-.17*	-.19*
22. Openness	105.40 (20.30)	.00	.02	.03	-.03	.07	-.02
Psychosocial Functioning							
23. SAS – self-report	1.84 (0.48)	.18*	.13	.21**	.12	.04	.19*
24. SAS – informant report	1.86 (0.54)	.36***	.24*	.46***	.20	.17	.28**
25. BDI-II	8.64 (9.55)	.15	.07	.17*	.10	-.04	.16*

Note. LPFS = Levels of Personality Functioning Scale. NEO-PI-R = NEO Personality Inventory – Revised. SAS = Social Adjustment Scale. BDI = Beck Depression Inventory II. *N*s range from 95 to 163. * $p < .05$. ** $p < .01$. *** $p < .001$.

particular, the identity subscale), and weak correlations with the intimacy subscale. Both functioning domains and the subscales of self-direction, empathy, and intimacy also showed weak to moderate associations with both self- and informant rated agreeableness. However, there were also some interesting results that showed a discrepancy between self- and informant report of personality. Whereas self-functioning and the intimacy subscale were moderately and negatively correlated with self-rated extraversion, the LPFS showed no significant correlations with informant-rated extraversion. Conversely, the LPFS was weakly to moderately correlated with informant report of conscientiousness, but not self-report.

3.2 Incremental Validity

Our final set of analyses concerns the incremental validity of the LPFS ratings. We ran a series of regression analyses predicting continuous PD scores on the SIDP-IV from LPFS ratings and the self-reported NEO-PI-R domain scores. In the first series of analyses, we entered LPFS ratings in the first step and PD count scores in the second; we then reversed the order in which the variables were entered. We examined adjusted R^2 values due to the difference in number of predictors entered in each step. The results are presented in Table 3.3. Self-reported FFM domain scores contributed an additional 5% (schizotypal) to 39% (avoidant) of the variance to the prediction of *DSM-IV* PDs over the LPFS subscales (mean change in adjusted R^2 = .20). When the order was reversed, LPFS subscale scores contributed significant variance over and above FFM domains to the prediction of schizoid, schizotypal, antisocial, borderline, and dependent PDs. Change in adjusted R^2 values ranged from -.01 (paranoid) to .05 (antisocial), with a mean change of .02. Only the Identity subscale of the LPFS showed significant and unique associations with *DSM-IV* PDs after controlling for the other LPFS subscales and FFM domains. It contributed significant variance to the prediction of borderline (b = .41, SE = .20, p = .04),

Table 3.3 Incremental validity of impairment ratings and NEO-PI-R domain scores

	LPFS Ratings	NEO-PI-R Domain Scores
Variable	Adj. R^2	Δ Adj. R^2
Paranoid	.02	.15***
Schizoid	.08**	.18***
Schizotypal	.07**	.05*
Antisocial	.08**	.10***
Borderline	.08**	.32***
Histrionic	.00	.26***
Narcissistic	.06**	.22***
Avoidant	.08**	.39***
Dependent	.10***	.23***
Obsessive-Compulsive	-.02	.12***
	NEO-PI-R Domain Scores	LPFS Ratings
	Adj. R^2	Δ Adj. R^2
Paranoid	.18***	-.01
Schizoid	.22***	.04*
Schizotypal	.08**	.03*
Antisocial	.12***	.05**
Borderline	.36***	.04*
Histrionic	.25***	.01
Narcissistic	.26***	.02
Avoidant	.47***	.00
Dependent	.30***	.03*
Obsessive-Compulsive	.09	.01

Note. Adj. = Adjusted. LPFS = Levels of Personality Functioning Scale. NEO-PI-R = NEO Personality Inventory – Revised. $N = 162$. * $p < .05$. ** $p < .01$. *** $p < .001$.

histrionic (b = .38, SE = .17, p = .03), and dependent PD (b = .41, SE = .15, p = .01). The overall contribution of the LPFS subscales to the prediction of *DSM-IV* PDs was relatively small compared to the normal-range FFM domains. However, it appears that the LPFS subscales capture some aspects of personality beyond normal-range personality traits. This is particularly significant given that these ratings were obtained through the use of a non-clinical interview in which an individual may not necessarily be expected to reveal information pertaining to personality pathology.

Chapter 4: Discussion

The current analyses extend the previous literature on Criterion A by examining the rating of personality functioning independently from personality disorder symptoms and traits. As expected, personality functioning as assessed by the LPFS could be reliably obtained from Life Story interviews. LPFS ratings also showed theoretically consistent relationships to the *DSM-5* PD types and the adaptive-range personality traits of the FFM. Finally, personality functioning demonstrated incremental validity over FFM personality traits in the prediction of *DSM-IV* PD symptoms. These findings support previous research into the LPFS showing its usefulness for the assessment of problems in functioning due to personality.

The results of the current study also have important implications for the implementation of the Alternative Model for PDs. One criticism of the Alternative Model during its development was that it lacked clinical utility, although research has since shown that clinicians do see the Alternative Model as being more useful in a variety of domains than the *DSM-IV* model (Morey, Skodol, & Oldham, 2014). Extending the empirical evidence against this criticism, our results show that even inexperienced raters can successfully use the descriptions of personality functioning provided in *DSM-5* in the absence of explicit information about personality pathology. Another issue that has been raised in the literature is the difficulty of distinguishing between personality functioning and traits (Clark & Ro, 2014). The results of the current analyses enhance our understanding of the associations between the two. In particular, these findings align with previous research that suggests that problems in self functioning load on the same factor as neuroticism (Oltmanns & Widiger, 2016). Additionally, we found interesting differences in the associations between personality functioning and self- and informant report of personality traits. Namely, self and interpersonal functioning was associated with self-rated

extraversion, but informant-rated conscientiousness. Even given these associations between functioning and normal-range personality traits, we found that personality functioning added to the prediction of PDs over and above these traits. As such, the LPFS can provide additional information about the pathology experienced by an individual, even when this pathology is not explicitly assessed.

Several limitations of the current analyses should be noted. First, although the subsample of participants selected for inclusion in these analyses was selected on the basis of existing personality pathology, they were drawn from a larger community sample. As such, the degree of impairment observed in these participants is lower than it would be in a clinical sample. Previous research has demonstrated the negative outcomes associated with personality pathology even at subthreshold levels, suggesting the importance of studying personality functioning in a community context. Nevertheless, it will be important to examine the reliability and validity of LPFS ratings produced from interviews that are not designed to assess PD symptoms or traits in a clinical sample. Another limitation of the current analyses is that we examined the incremental validity of impairment ratings as compared to adaptive range personality traits. Although research has demonstrated clear links between the domains of the FFM and PD symptoms (Samuel & Widiger, 2008; Saulsman & Page, 2004), it will be important for future analyses to examine the potential added predictive value of LPFS ratings as obtained through non-diagnostic interviews over maladaptive personality traits.

Future research could expand on these findings in a number of other ways. The divergent results between self- and informant report of personality traits and psychosocial functioning in the current analyses suggest that future research on personality functioning should incorporate multiple sources of information. An important question to address would be what aspects of

personality functioning are being picked up on that are associated with self-, but not informant, rated extraversion (and vice versa for conscientiousness). In addition, the current findings suggest methods of assessing personality functioning that do not involve taping into pathological personality traits or symptoms. It will be important to develop clinical interviews to assess personality functioning that do not overlap with other constructs. Finally, future research will need to examine these issues in light of supporting, and potentially revising, the Alternative Model in order to institute a diagnostic model that is clinically flexible and empirically supported. This line of research will eventually result in the improved treatment of PDs, and improved outcomes for those who suffer from problems in personality functioning.

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