Convergent and Discriminant Validity and Utility of the DSM–5 Levels of Personality Functioning Questionnaire (DLOPFQ): Associations with Medical Health Care Provider Ratings and Measures of Physical Health

Sharon M. Nelson, Steven K. Huprich, Kevin B. Meehan, Caleb Siefert, Gregory Haggerty, James Sexton, V. Barry Dauphin, Matthew Macaluso, Rosalee Zackula, Lyle Baade & Jennifer Jackson


To link to this article: https://doi.org/10.1080/00223891.2018.1492415
INSTRUMENT DEVELOPMENT

Convergent and Discriminant Validity and Utility of the DSM–5 Levels of Personality Functioning Questionnaire (DLOPFQ): Associations with Medical Health Care Provider Ratings and Measures of Physical Health

Sharon M. Nelson1, Steven K. Huprich2, Kevin B. Meehan3, Caleb Siefert4, Gregory Haggerty5, James Sexton6, V. Barry Dauphin2, Matthew Macaluso7, Rosalee Zackula7, Lyle Baade7, and Jennifer Jackson7

1Department of Psychology, Eastern Michigan University, USA; 2Department of Psychology, University of Detroit Mercy, USA; 3Department of Psychology, Long Island University, USA; 4University of Michigan–Dearborn, USA; 5Psychiatry and Behavioral Sciences, Nassau Medical Center, USA; 6Professional Psychology Department, George Washington University, USA; 7Psychiatry and Behavioral Sciences, University of Kansas School of Medicine-Wichita, USA

ABSTRACT

The ability to evaluate patients’ level of personality functioning in assessing personality disorders has become increasingly important since the DSM–5 Section III hybrid system of personality disorder assessment was released. One measure developed to assess this criterion is the DSM–5 Levels of Personality Functioning Questionnaire (DLOPFQ; Huprich et al., 2017), which assesses individuals’ self and other representations in four domains—self-direction, identity, empathy, and intimacy—across two contexts—work or school and relationships. A sample of 140 psychiatric and internal medicine outpatients were administered several questionnaires, including the DLOPFQ. Provider ratings also were obtained for level of functioning and DSM–5 pathological personality traits. Several of the DLOPFQ scales were significantly correlated with self-reported and provider-reported measures of DSM–5 trait domains and levels of functioning, along with self-reported measures of effortful control, overall physical and mental health, and well-being. Certain DLOPFQ scales and subscales were associated with provider ratings of likeability and patient contact with the providers. However, relatively modest validity coefficients, as well as poor discriminant validity of domain scales, indicate further research and measure refinement might be needed. It is concluded that, although further research is necessary, the DLOPFQ could be useful for understanding patients’ personality pathology in clinical settings.

Controversy regarding the best methods for conceptualizing, assessing, and diagnosing personality disorders (PDs) has been ongoing since the creation of a separate axis for personality pathology (Diagnostic and Statistical Manual of Mental Disorders, 3rd ed. [DSM–III]; American Psychiatric Association, 1980). Current and well-articulated concerns regarding the existing system (Clark, 2007; Skodol et al., 2011; Widiger & Samuel, 2005) were a key component of the issues discussed by the DSM–5 Personality and Personality Disorder Work Group (PPDWG). That group ultimately proposed a hybrid system for assessing personality pathology that included six PD categories (antisocial, avoidant, borderline, narcissistic, obsessive–compulsive, and schizotypal), and the recommendation that all patients be assessed for the presence of 25 traits, as well as level of personality functioning (LPF). The American Psychiatric Association Board of Trustees voted to place the Alternative DSM–5 Model for Personality Disorders (AMPD) in Section III of the DSM–5 as an alternative model available for use, and it remains an important area for continued research.

An extensive review of the existing literature noted that impairments in self and other representations are core components of personality pathology (Bender, et al., 2013), leading to the inclusion of the Level of Personality Functioning Scale (LPFS) in the AMPD. In fact, the DSM–5 states that “disturbances in self and interpersonal functioning constitute the core of personality psychopathology” (American Psychiatric Association, 2013, p. 762). Difficulties in self-functioning can be observed in one’s identity and self-direction, whereas difficulties in interpersonal functioning can be observed in the capacity for empathy, intimacy, or both.

It should be noted, however, that for this system (or some variant) to become adopted in the future, it is important that the AMPD function in ways that show its clinical utility (Clarkin & Huprich, 2011; First et al., 2004). This means that patients’ reports of their pathological personality traits and level of functioning should be associated with outcomes that are related to adaptive functioning, such as problems in interpersonal relationships, utilization of the health care system, and overall beliefs about one’s physical and psychological health.

CONTACT Sharon M. Nelson SharonM.E.Nelson@gmail.com Department of Psychology, Eastern Michigan University, 352 Mark Jefferson, Ypsilanti, MI 48198.

© 2018 Taylor & Francis Group, LLC.
Multiple researchers have already begun to evaluate the AMPD, with most of the work to date concentrating on assessing the psychometric properties of the Personality Inventory for DSM-5 (PID-5) (Krueger, Derringer, Markon, Watson, & Skodol, 2012), a measure developed to assess the 25 pathological trait variants that are part of Criterion B of the model. A meta-analysis of 29 of the existing studies on this measure that were published before 2016 demonstrate adequate to excellent psychometric properties (Al-Dajani, Gralnick, & Bagby, 2016). However, significantly less research has been aimed at evaluating the levels of personality functioning, Criterion A, aspect of the hybrid model.

Using the LPFS (Bender, Morey, & Skodol, 2011) with 337 psychiatric outpatients, Morey, Krueger, and Skodol (2013) found good sensitivity (85%) and specificity (73%) for levels of personality functioning ratings conducted by treating clinicians being able to accurately predict whether or not patients had a DSM–IV PD, and were correlated with interpersonal functioning and treatment outcomes. Hutsebaut, Feenstra, and Kamphuis (2016) developed the LPFS–Brief Form, a 12-item self-report measuring the four LPF facets described in the DSM–5. Using a sample of 240 clinical patients, they demonstrated that the LPFS–Brief Form corresponded with factors characterized by both self and interpersonal functioning, although the scales had low internal consistency and mostly weak correlations with DSM–IV PDs. Most recently, Morey (2017b) created an 80-item self-report of LPF. Utilizing an adult, community sample, he found the measure had excellent internal consistency, and that scores were correlated with other related measures of personality pathology. Notably, results did not demonstrate a differentiation between LPF domains and criterion variables, providing some support for the utilization of a single score to capture one core dimension. Subsequent research with the LPFS Self-Report across three community samples similarly provided support for a single-factor assessment of LPF (Hopwood, Good, & Morey, 2018). Other researchers have found, however, that LPF ratings did not demonstrate incremental validity over the PID–5 traits (Few et al., 2013; Hentschel & Pukrop, 2014), which has led some researchers to question whether assessing the LPF provides any additional utility, beyond assessing traits alone.

In contrast with the studies just described, Zimmermann et al. (2014) found that untrained undergraduates could reliably rate LPF levels by viewing videotaped diagnostic interviews. Similarly, Morey (2017a) demonstrated that undergraduates with little to no personality training were able to use the LPFS to reliably differentiate pathological to nonpathological personality problems. In addition, Zimmermann et al. (2015) demonstrated that the LPF ratings and DSM–5 pathological traits loaded on different factors (with a few exceptions), providing some evidence for the incremental utility of both measures. Using the Semi-Structured Interview for Personality Functioning DSM–5 (STiP–5.1) in a sample of both psychiatry outpatients and community members, Hutsebaut, Berghuis, De Saeger, Kaasenbrood, and Ingenhoven (2014) found the STiP–5.1 to possess adequate interrater reliability, and that impairments in both self- and interpersonal functioning were correlated with other measures of personality impairment (Hutsebaut, Kamphuis, Feenstra, Weekers, & De Saeger, 2017).

**Personality pathology and physical well-being**

One area that has often been neglected in determining the utility of personality assessment measures is in a primary care setting, despite personality pathology being relatively prevalent in health care settings and representing an increased burden on physicians (Jackson & Burgess, 2004; Quirk et al., 2016). Because people are more likely to seek treatment for mental health from their medical providers (Blount, 2003; Haas, 2004; Miller, Brown Levey, Payne-Murphy, & Kwan, 2014; Miller & Druss, 2013) it is essential to evaluate the utility of the newly proposed model in DSM–5, and resulting measures, with medical providers.

Individuals with PDs often present with significant comorbid health issues that require repeated medical care (Tyrer, 2005). Often discussed is the increased rate of hospitalizations and use of medication in individuals with PDs due to impulsive or self-harm behavior (Bender et al., 2001; Zanarini, Frankenburg, Hennen, Reich, & Silk, 2005; Zanarini, Frankenburg, Hennen, & Silk, 2004); however, significant comorbid physical health concerns have been demonstrated in this same population. Lee and colleagues (2010) found that 30% of patients in the hospital dying from cardiovascular disease had at least one PD. In addition, individuals with some PDs (i.e., avoidant, paranoid, schizotypal, schizoid, and borderline PD) have been shown to have an increased risk of heart disease (Lee et al., 2010; Moran et al., 2007; Quirk et al., 2016), and the presence of some PDs (avoidant, obsessive–compulsive, borderline) have been found to be correlated with increased risk of stroke (Moran et al., 2007). Most concerning, a longitudinal study following 1,837 individuals found that individuals with any PD experienced a decreased life expectancy of 17.7 years, with the average mortality age being 59.1 years for men and 63.3 years for women (Fok et al., 2012). Taken together, these studies demonstrate the significant physical and health impact of personality pathology (see Huprich, 2018, for a recent review of these issues).

Given these findings, it is not surprising that individuals with PD diagnoses have a higher amount of health care utilization than other groups. Individuals with PD diagnoses have been shown to have greater frequency of physician, specialist, and emergency room visits (Quirk et al., 2016; Sansone, Farukhi, & Wiederman, 2011). In addition to higher utilization of services, individuals with personality pathology are at times less likely to comply with physicians’ orders. For example, a study of medical outpatients found that individuals with borderline PD were less likely to comply with regular dental check-ups, physician-ordered lab work, physician or nutritionist instructions, and medication instructions (Sansone, Bohinc, & Wiederman, 2015). In sum, these results provide support for the importance of assessing personality in primary care settings, as well as
assessing the clinical utility of the AMPD, and resulting measures, in these settings.

**Development of the DSM–5 Levels of Personality Functioning Questionnaire**

Recently, the DSM–5 Levels of Personality Functioning Questionnaire (DLOPFQ; Huprich et al., 2017) was published, with the hope of providing a clinically useful and empirically valid measure of LPF. The research team that developed the DLOPFQ (Huprich et al., 2017) was made up of individuals with a combined total of roughly 100 years of research and clinical experience. They carefully evaluated the AMPD and aspects related to LPF. From this, items were generated independently, with the aim of creating items that assessed each domain. Items were then jointly discussed, and agreed on items were then used to create the DLOPFQ. The DLOPFQ is composed of 66 items that assess individuals’ self and other representations across domains of self-direction, identity, empathy, and intimacy. The questionnaire asks individuals to assess themselves on all 66 items across two contexts—relationships and work or school—creating a total of 132 items. This contextualized aspect of the measure was included to capture the stability present when personality patterns are assessed within a given context (Huprich & Nelson, 2015; Mischel & Shoda, 2008). It was rationalized that both the breadth to which level of functioning is assessed, and the anchoring in situation-specific context might provide improved clinical utility than briefer or more general measures.

Initial research on the measure (Huprich et al., 2017) found that the item pool was internally consistent, with scale and subscale Cronbach’s alphas ranging from .77 to .94. In addition, the DLOPFQ scales were significantly and positively correlated with self-reported ratings of overdependence, detachment, healthy dependency, and insecure attachment. However, they also were positively correlated with several of the PID–5–BF (Krueger, Derringer, Markon, Watson, & Skodol, 2013) scales, with the highest correlations being between Negative Affectivity and the Identity scales or subscales (.62–.70), and Detachment and the Intimacy scales or subscales (.63–.66). Although there were significant correlations with the PID–5–BF, in a series of regression analyses, the DLOPFQ scales significantly predicted incremental variance among several criterion measures, thus supporting the instrument’s validity and nonredundancy with the PID–5–BF. Given the limited existing research on Criterion A of the AMPD, as well as the lack of measures that incorporate situational specificity toward assessing Criterion A, the DLOPFQ, which assesses LPF broadly and across several dimensions and contexts, has the potential to inform our understanding of personality pathology, including in a primary care setting.

Consequently, the aim of this study was to further evaluate the construct, convergent, and discriminant validity of the DLOPFQ, specifically in primary care and psychiatric outpatient settings using both patient and medical provider responses. This was accomplished in three ways. First, we evaluated the extent to which self-reports of LPF correlated with provider ratings of LPF. Based on previous findings that correlations between self- and other ratings are in the low to moderate range (Oltmanns & Turkheimer, 2006), we predicted that the DLOPFQ would have low to moderate significant correlations with provider ratings of the same dimensions. In addition, to assess discriminant validity, we predicted that the DLOPFQ scales would be more highly correlated with the related Provider scales (e.g., DLOPFQ Identity with Provider Identity) than with the other domains (e.g., DLOPFQ Identity with DLOPFQ Self-Direction). Second, we evaluated the extent to which DLOPFQ scales were associated with provider ratings of patient compliance and use of health care. We hypothesized that DLOPFQ scores would be negatively associated with patients’ engagement in their health care and favorable perceptions by health care providers. Third, we evaluated the relationship of patients’ perceptions of their health status with DLOPFQ scores. Based on past research, we hypothesized that the DLOPFQ would be associated with negative perceptions of health and well-being.

**Methods**

**Research design**

The research design was a cross-sectional assessment involving a clinical sample that included the use of self-report questionnaires, provider ratings, and an examination of information contained in the medical record.

**Participant selection criteria**

Individuals eligible for participation in this study had to be at least 18 years old and were recruited from outpatient psychiatry and internal medicine clinics at a Midwestern U.S. medical school. To be eligible, patients had to have been in treatment at these clinics since January 1, 2015, and had to have been seen at least two times within the 1-year period prior to recruitment for this study. Individuals with a known organic cause to their mental or psychological functioning (e.g., head injury, stroke) were excluded, as was anyone with a diagnosis of schizophrenia, schizoaffective disorder, schizophreniform disorder, any psychotically defined disorder, documented intellectual disability (e.g., Down’s syndrome, IQ <70), or difficulties in reading or speaking English. No individuals were excluded based on race, gender, or sexual orientation or any other sociodemographic variable. The study was approved by the Institutional Review Boards (IRBs) of the University of Kansas School of Medicine–Wichita and Wichita State University (WSU).

**Participants**

A total of 184 patients signed the consent form, although 83 participants from outpatient psychiatry and 57 from internal medicine completed the survey, totaling 140. Their mean age was 47.79 (SD = 13.32) years, ranging from 18 to 79.
The gender breakdown was 103 female and 37 male. The self-reported ethnic breakdown was as follows: 107 White, 17 Black, 5 Hispanic, 2 Native American, 5 multicultural, and 4 did not answer or preferred not to say.

Recruitment

Potential participants were approached in the waiting room prior to their appointment, after being identified as eligible to participate by a licensed nurse practitioner in the psychiatry clinic, or by the nurse office manager in the internal medicine clinic. The nurse practitioner in the psychiatry clinic provides psychopharmacological treatment and brief supportive interventions for adult outpatients and has working knowledge of each patient’s treatment history. The nurse office manager at the internal medicine clinic reviewed participation criteria to identify eligible patients.

Participants were told by a research assistant that the study was voluntary and were given written consent. They were e-mailed the link to the online survey, which took 90 minutes to complete, and were asked to complete it within 3 weeks of consenting. Reminders were e-mailed up to three times if the survey had not been completed. About two thirds of the way through the recruitment process, it was decided to allow participants the option of completing the questionnaire as a hard copy in the clinic, as some individuals approached for participation did not have reliable e-mail. Once the survey had been completed, participants were mailed compensation.

For patients in both clinics, the providers who saw the patients completed a 14-item, Likert-type questionnaire immediately after the completion of their appointment. Questions asked the providers to assess the patients’ compliance and progress in treatment, and asked providers to rate patients’ DSM–5 broad trait domains and the LPF. At the internal medicine clinic, the providers were different medical residents, whereas at the outpatient psychiatry clinic one provider completed all ratings. No demographic data were collected on providers.

Measures

DSM–5 Levels of Functioning Questionnaire

The DLOPFQ is a 132-item, Likert-type questionnaire, in which individuals endorse items on a scale from 1 (strongly disagree) to 6 (strongly agree). These questions assess the four dimensions of levels of functioning in the AMPD across work and school and close relationships. The two self-domains are identity and self-direction, and the two other domains are empathy and intimacy. Individuals rate each question on how they function in personal relationships (66 questions) and then the same questions again for how they function at work or school (the same 66 questions). Consequently, four scales are computed: Identity (14 items, including “Sometimes I feel so messed up that I don’t think anyone could understand me”), Self-Direction (16 items, “I find myself in the same dilemmas over and over again even though I keep trying to make things better”), Empathy (16 items, “It’s difficult to believe others when they tell me that I do not understand them”), and Intimacy (19 items, “After liking someone, when I see something in them that is not so appealing I immediately pull away”). Within each scale, a subscale score can be derived for Work/School and Social Relationships. Thus, within the Identity scale, Work/School Identity and Social Relationships Identity subscales are computed. Higher scores indicate higher levels of pathology.

Short Form–36 Questionnaire

The Short Form–36 Questionnaire (SF–36; Ware, Snow, Kosinski, & Gandek, 1993) is a self-report measure designed to examine a person’s perceived health status (Ware et al., 1993). It contains 36 multiple-choice items and is comprised of eight subscales, including Physical and Social Functioning, Role Limitations due to Physical Health and Emotional Problems, Mental Health, Bodily Pain, Vitality, and General Health. All raw scale scores are linearly converted to a 0 to 100 scale, with higher scores indicating higher levels of functioning or well-being. The SF–36 has been a widely researched scale and has demonstrated strong reliability and validity.

In addition, a 14-item questionnaire was completed by the participants’ providers immediately after meeting with each patient. It asks clinicians to provide broad ratings of their patients’ LPF and five pathological trait domains, each of which is assessed with one item (e.g., to assess Identity the provider was asked to rate his or her client on the following item: “The patient has an ongoing awareness of his or her uniqueness, good boundaries between self and other, a consistent and regulated positive self-esteem and capable of tolerating and regulating a full set of emotions.” Items assessing LPF were based on the domain descriptions of Level 0 of the LPFS, and the trait items were derived from the proposed diagnostic trait criteria, both found in DSM–5 (American Psychiatric Association, 2013). Providers were asked to rate each of these items using a 6-point Likert scale, ranging from 1 (does not describe at all) to 6 (absolutely describes). In addition, compliance with and progress in treatment was assessed using five items (e.g., “This patient is compliant with my instructions”), which the provider rated using a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). A copy of that instrument is in the Appendix.

Finally, we obtained from the patient’s medical record the following information: the number of visits scheduled with various types of providers, number of electronic encounters with a health care professional, the number of missed appointments, the number of prescribed medications a patient currently takes, the number of documented suicide attempts, and body mass index (BMI).

Results

Correlations of DLOPFQ scales and subscales and provider ratings of identity, self-directedness, empathy, and intimacy, which were derived directly from the AMPD descriptions, are reported in Table 1. In general, the correlations were
small in magnitude, but consistent with past research on self–other correlations. Only one of the 24 “self” dimension intercorrelations was not significant.¹ By contrast, 11 of the 24 “other” dimension correlations were not significant. However, most of these nonsignificant correlations were in self-reported self-dimensions and their correlations with provider-reported other dimensions. Interestingly, self-reported Intimacy scores were most highly correlated with provider-reported other dimensions. It was expected that monotrait–heteromethod correlations would be higher than heterotrait–heteromethod correlations, but the opposite was the case. Monotrait–heteromethod correlations (e.g., DLOPFQ Identity and Provider Identity), which ranged from .14 to .30, were lower than the heterotrait–monomethod correlations (e.g., DLOPFQ Identity and DLOPFQ Self Direction), which ranged from .46 to .85. In addition, the monotrait–heteromethod correlations were compared to heterotrait–heteromethod correlations (e.g., DLOPFQ Identity to Provider Self Direction). Heterotrait–heteromethod correlations ranged from −.08 to −.30, which were similar to the monotrait–heteromethod correlations.

To assess discriminant validity, the Multitrait–Multimethod Matrix (Campbell & Fiske, 1959) of these same DLOPFQ and Provider scales were examined. To do this, multitrait–heteromethod correlations were compared with heterotrait correlations (Campbell & Fiske, 1959). It was expected that monotrait–heteromethod correlations would be higher than heterotrait correlations, but the opposite was the case. Monotrait–heteromethod correlation (e.g., DLOPFQ Identity and Provider Identity), which ranged from −.14 to −.30, were lower than the heterotrait–monomethod correlations (e.g., DLOPFQ Identity and DLOPFQ Self Direction), which ranged from .46 to .85. In addition, the monotrait–heteromethod correlations were compared to heterotrait–heteromethod correlations (e.g., DLOPFQ Identity to Provider Self Direction). Heterotrait–heteromethod correlations ranged from −.08 to −.30, which were similar to the monotrait–heteromethod correlations.

Table 2 reports DLOPFQ correlations with provider ratings of the DSM–5 trait dimensions, which also were taken directly from the AMPD. Provider ratings of trait dimensions had much lower magnitudes of correlation than those previously found when comparing self-reported trait dimensions with the DLOPFQ (Huprich et al., 2017) with only 28 of the 60 intercorrelations being significant. Self-reported empathy scores had the strongest degree of association with provider ratings of the traits (8 out of 12 were significant).

Next, the correlations between DLOPFQ subscales and provider compliance ratings were assessed. In general, these variables were not correlated. However, providers’ reports of enjoying treating the patient were significantly and negatively correlated with all three intimacy subscale ratings ($r_s = −.19$ to $−.21$, $p < .03$).

Table 3 reports the intercorrelations of the DLOPFQ with the scales of the SF–36. The DLOPFQ scales did not correlate with ratings of physical health, nor did 10 or the 12 DLOPFQ scales correlate with pain scale ratings; however, Work and Social Intimacy totals were significantly and negatively correlated with ratings of pain, suggesting that more self-reported pain was associated with lower scores on the Intimacy scale. All of the Energy/Fatigue–DLOPFQ correlations were significantly and negatively correlated, suggesting higher levels of personality pathology are associated with more fatigue and less energy; likewise, all but one of the Emotional Well-Being and DLOPFQ correlations were significantly and negatively correlated, suggesting personality pathology was associated with less emotional well-being. The remaining scales had many more significant DLOPFQ–SF–36 correlations than not, again suggesting that worse functioning is associated with greater levels of personality pathology. Of note, most of the nonsignificant correlations were within the empathy and intimacy dimensions.

Finally, we evaluated the correlations of the DLOPFQ scales and subscales with measures of the number of visits scheduled with various types of providers, number of electronic encounters with a health care professional, the number of missed appointments, the number of prescribed medications a patient currently takes, the number of documented suicide attempts, the smoking status of the patient (yes, no, or former), and BMI. This information was obtained from the electronic medical record. However, due to the structure of the electronic database and a conversion of one database to another during the time period we investigated, no information was available for the number of referrals made, and only 19 current prescription medications could be verified. These variables were very positively skewed, so the square root value was obtained to normalize the distribution.

### Table 1. Correlations of DSM–5 Levels of Personality Functioning Questionnaire (DLOPFQ) scales and subscales with provider ratings of levels of personality functioning (LPF).

<table>
<thead>
<tr>
<th>Provider-rated LPF</th>
<th>Identity</th>
<th>Self-directedness</th>
<th>Empathy</th>
<th>Intimacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity total</td>
<td>−.18*</td>
<td>−.19*</td>
<td>−.15</td>
<td>−.10*</td>
</tr>
<tr>
<td>Work identity</td>
<td>−.14</td>
<td>−.17*</td>
<td>−.15</td>
<td>−.08</td>
</tr>
<tr>
<td>Social identity</td>
<td>−.19*</td>
<td>−.18*</td>
<td>−.13</td>
<td>−.10</td>
</tr>
<tr>
<td>Self-directedness total</td>
<td>−.22*</td>
<td>−.21*</td>
<td>−.18*</td>
<td>−.13</td>
</tr>
<tr>
<td>Work self-directedness</td>
<td>−.19*</td>
<td>−.19*</td>
<td>−.13</td>
<td>−.13</td>
</tr>
<tr>
<td>Social self-directedness</td>
<td>−.21*</td>
<td>−.19*</td>
<td>−.16</td>
<td>−.10</td>
</tr>
<tr>
<td>Empathy total</td>
<td>−.21*</td>
<td>−.23*</td>
<td>−.24*</td>
<td>−.17*</td>
</tr>
<tr>
<td>Work empathy</td>
<td>−.21*</td>
<td>−.23*</td>
<td>−.27*</td>
<td>−.18</td>
</tr>
<tr>
<td>Social empathy</td>
<td>−.19*</td>
<td>−.20*</td>
<td>−.18*</td>
<td>−.13</td>
</tr>
<tr>
<td>Intimacy total</td>
<td>−.24*</td>
<td>−.23*</td>
<td>−.29*</td>
<td>−.29*</td>
</tr>
<tr>
<td>Work intimacy</td>
<td>−.20*</td>
<td>−.20*</td>
<td>−.30*</td>
<td>−.30*</td>
</tr>
<tr>
<td>Social intimacy</td>
<td>−.25*</td>
<td>−.22*</td>
<td>−.25*</td>
<td>−.25*</td>
</tr>
</tbody>
</table>

Note. Correlations are negative, as high scores on the provider ratings are indicative of more adaptive ratings, whereas high scores on the patient questionnaire are indicative of maladaptive ratings.

### Table 2. Correlations of DSM–5 Levels of Personality Functioning Questionnaire (DLOPFQ) scales and subscales with self-reported and provider-reported PID–5–Brief scores.

<table>
<thead>
<tr>
<th>Provider report</th>
<th>NA</th>
<th>DET</th>
<th>ANT</th>
<th>DIS</th>
<th>PSY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity total</td>
<td>.29**</td>
<td>.14</td>
<td>.05</td>
<td>.14</td>
<td>−.03</td>
</tr>
<tr>
<td>Work identity</td>
<td>.25*</td>
<td>.09</td>
<td>.03</td>
<td>.12</td>
<td>−.05</td>
</tr>
<tr>
<td>Social identity</td>
<td>.28**</td>
<td>.16</td>
<td>.05</td>
<td>.14</td>
<td>−.09</td>
</tr>
<tr>
<td>Self-directedness total</td>
<td>.30***</td>
<td>.20*</td>
<td>.14</td>
<td>.20*</td>
<td>.06</td>
</tr>
<tr>
<td>Work self-directedness</td>
<td>.21*</td>
<td>.12</td>
<td>.12</td>
<td>.16</td>
<td>.01</td>
</tr>
<tr>
<td>Social self-directedness</td>
<td>.33***</td>
<td>.22**</td>
<td>.14</td>
<td>.22*</td>
<td>.07</td>
</tr>
<tr>
<td>Empathy total</td>
<td>.26**</td>
<td>.17*</td>
<td>.22*</td>
<td>.21*</td>
<td>.13</td>
</tr>
<tr>
<td>Work empathy</td>
<td>.21*</td>
<td>.15</td>
<td>.21*</td>
<td>.22*</td>
<td>.13</td>
</tr>
<tr>
<td>Social empathy</td>
<td>.25**</td>
<td>.17*</td>
<td>.20*</td>
<td>.20*</td>
<td>.11</td>
</tr>
<tr>
<td>Intimacy total</td>
<td>.18*</td>
<td>.20*</td>
<td>.08</td>
<td>.21*</td>
<td>.10</td>
</tr>
<tr>
<td>Work intimacy</td>
<td>.15</td>
<td>.18*</td>
<td>.06</td>
<td>.16</td>
<td>.09</td>
</tr>
<tr>
<td>Social intimacy</td>
<td>.19*</td>
<td>.20*</td>
<td>.09</td>
<td>.22**</td>
<td>.10</td>
</tr>
</tbody>
</table>

Note. NA = Negative Affectivity; DET = Detachment; ANT = Antagonism; DIS = Disinhibition; PSY = Psychoticism. $p < .05$. **$p < .01$. ***$p < .001$. ¹Correlations are negative, as high scores on the provider ratings are indicative of more adaptive ratings, whereas high scores on the patient questionnaire are indicative of maladaptive ratings.
Self-Directedness total and work and social subscale total scores were all significantly and positively correlated with patient encounters through the Web portal (rs = .17–.18, p < .03). The number of canceled appointments was significantly and positively correlated with the Work Intimacy total score (r = .18, p = .04). No other variables were significantly correlated with these medical record data.

**Discussion**

This study reports psychometric support for the DLOPFQ in a sample of patients from outpatient psychiatry and internal medicine clinics. When we compared patient ratings of their level of functioning to provider ratings, we found small, but significant correlations for most of the scales. Provider Identity and Self-Directedness ratings were significantly correlated with all of the DLOPFQ scales and subscales except one, although sample size might have limited the detection of a significant effect, given that its value was close in magnitude to other significant correlations. Provider ratings of empathy tended not to be significantly correlated with patients’ DLOPFQ scores, although the opposite was true for intimacy, which had the highest correlation values. Although providers can detect these qualities in patients, it might be that intimacy, which asks about mutuality and cooperation, is a salient feature to providers as they interact with patients. The correlations on the diagonal of Table 1 were not the largest, which is contrary to what might be expected, given that they were the correlations of the same dimensions (e.g., self-reported work intimacy with provider-reported work intimacy); however, there were a greater number of significant correlations between self-reported self-dimensions and provider-rated self-dimensions than the self-reported self-dimensions and provider-reported other dimensions correlations. These findings provide partial support for the construct validity of the DLOPFQ, more particularly for the “self” dimensions than the “other” dimensions.

Discriminant validity of the DLOPFQ subscales in predicting provider ratings within the same domain was assessed through a comparison of correlations utilizing an Multitrait-multimethod matrix (MTMM) framework (Campbell & Fiske, 1959). Monotrait–heterotrait correlations were lower or similar in general than heteromethod correlations. These findings raise questions regarding the benefit of inclusion of context subscales. Future research will need to further evaluate discriminant validity of the DLOPFQ scales and subscales, both regarding the benefit of the inclusion of context (e.g., assessing whether correlations of DLOPFQ work and social scales differ when compared with external criterion measures), and the benefit of assessing the four domains independently. As the DLOPFQ is a relatively new measure, future research should also seek to determine if refinement of these subscales is able to improve discriminant ability. In addition, it is possible that high correlations between scales might be related to a construct issue, again speaking to the need to further evaluate the benefit of the inclusion of multiple scales in assessing LOPF.

Provider ratings of the DSM–5 trait domains were less correlated with DLOPFQ scores. The highest magnitudes of correlations were observed between provider-rated negative affect and the DLOPFQ scales, followed by the Detachment–DLOPFQ correlations. What is most notable is that none of the provider ratings of psychoticism were correlated with any of the DLOPFQ scales, whereas previously found patient self-reports of psychoticism in Huprich et al. (in press were. This appears to be the biggest point of discrepancy in patient and provider ratings. It should be noted that in the provider ratings of psychoticism, one of the features of that item is about assessing patients’ belief system as it related to cultural congruency or oddity. Thus, it could be that providers were more focused on significant deviation from cultural expectations, whereas patients were not necessarily thinking in such a context.

We were surprised not to find many significant correlations between the provider ratings of compliance with DLOPFQ scores. Given that the questions pulled for direct ratings of patient likeability and compliance, providers might have been a bit cautious in their ratings, which might have resulted in a range restriction of compliance ratings, subsequently lessening the relationship. Previous research across multiple studies has found that medical providers often overestimate patient compliance (Caron & Roth, 1971; Norell, 1981). In addition, several students have noted that

---

**Table 3.** Correlations of the DSM–5 Levels of Personality Functioning Questionnaire (DLOPFQ) scales and subscales with measures of health and well-being.

<table>
<thead>
<tr>
<th></th>
<th>PF</th>
<th>RL-P</th>
<th>RL-E</th>
<th>EF</th>
<th>EWB</th>
<th>SF</th>
<th>PN</th>
<th>GEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identity total</td>
<td>.04</td>
<td>−.22*</td>
<td>−.29**</td>
<td>−.37***</td>
<td>−.50***</td>
<td>−.40***</td>
<td>−.15</td>
<td>−.26***</td>
</tr>
<tr>
<td>Work identity</td>
<td>.05</td>
<td>−.20*</td>
<td>−.29**</td>
<td>−.33***</td>
<td>−.49***</td>
<td>−.40***</td>
<td>−.16</td>
<td>−.26***</td>
</tr>
<tr>
<td>Social identity</td>
<td>.04</td>
<td>−.23**</td>
<td>−.27**</td>
<td>−.38***</td>
<td>−.46***</td>
<td>−.38***</td>
<td>−.13</td>
<td>−.24***</td>
</tr>
<tr>
<td>Self-directedness total</td>
<td>.02</td>
<td>−.18*</td>
<td>−.30**</td>
<td>−.42***</td>
<td>−.47***</td>
<td>−.32***</td>
<td>−.10</td>
<td>−.25***</td>
</tr>
<tr>
<td>Work self-directedness</td>
<td>.02</td>
<td>−.18*</td>
<td>−.32***</td>
<td>−.41***</td>
<td>−.46***</td>
<td>−.32***</td>
<td>−.09</td>
<td>−.27***</td>
</tr>
<tr>
<td>Social self-directedness</td>
<td>.02</td>
<td>−.16</td>
<td>−.25**</td>
<td>−.38***</td>
<td>−.42***</td>
<td>−.29**</td>
<td>−.09</td>
<td>−.21*</td>
</tr>
<tr>
<td>Empathy total</td>
<td>.02</td>
<td>−.12</td>
<td>−.12</td>
<td>−.22*</td>
<td>−.21*</td>
<td>−.15</td>
<td>−.15</td>
<td>−.18*</td>
</tr>
<tr>
<td>Work empathy</td>
<td>.01</td>
<td>−.12</td>
<td>−.13</td>
<td>−.20*</td>
<td>−.22*</td>
<td>−.18*</td>
<td>−.12</td>
<td>−.16</td>
</tr>
<tr>
<td>Social empathy</td>
<td>.05</td>
<td>−.11</td>
<td>−.10</td>
<td>−.22</td>
<td>−.16</td>
<td>−.11</td>
<td>−.16</td>
<td>−.17</td>
</tr>
<tr>
<td>Intimacy total</td>
<td>−.11</td>
<td>−.18*</td>
<td>−.24**</td>
<td>−.29**</td>
<td>−.45***</td>
<td>−.15**</td>
<td>−.15**</td>
<td>−.18***</td>
</tr>
<tr>
<td>Work intimacy</td>
<td>−.15</td>
<td>−.22*</td>
<td>−.29**</td>
<td>−.30**</td>
<td>−.45***</td>
<td>−.36**</td>
<td>−.34**</td>
<td>−.31***</td>
</tr>
<tr>
<td>Social intimacy</td>
<td>−.06</td>
<td>−.12</td>
<td>−.18*</td>
<td>−.25*</td>
<td>−.40***</td>
<td>−.33**</td>
<td>−.17*</td>
<td>−.29***</td>
</tr>
</tbody>
</table>

*Note.* PF = Physical Functioning; RL-H = Role limits due to physical health; RL-E = Role limits due to emotional health; EF = Energy/fatigue; EWB = Emotional well-being; SF = Social functioning; PN = Pain; GEN = General health.

*p < .05, **p < .01, ***p < .001.
provider and patient reports of the relationship are often not correlated (Anderson & Zimmerman, 1993; Hall, Stein, Roter, & Rieser, 1999). Also, for the internal medicine clinic, providers did not know the patients quite as well as the nurse practitioner in the psychiatry clinic, so ratings might have been attenuated. However, we compared correlations across clinics and found virtually no difference across them. Most telling in these sets of analyses was that intimacy ratings were correlated with enjoying treating the patient. More specifically, provider correlations with intimacy focused on mutual cooperation; thus, it was not surprising to see that these correlations with compliance were significant. Although these last results suggest that the Intimacy scales might be a valid measure of the capacity to have mutually caring relationships, the lower level of internal consistency indicates future research is needed on the DLOPFQ Intimacy scales.

Related to this, we were surprised to find very few significant correlations in DLOPFQ scores with many of the variables related to health care utilization. Self-directedness was correlated with Web portal contact, which is somewhat surprising, given high scores on these scales are indicative of poor self-directedness. However, it has been the case that individuals who are overly dependent (and hence possess a low degree of self-directedness) can be quite active in help-seeking (Bornstein, 1998). Given that the DLOPFQ scales were all highly significantly correlated with the Overdependency scale of the Relationship Profile Test (RPT) in this same sample (Huprich et al., in press), it might be the case that high levels of active overdependency are a component of low self-directedness.

In addition, the number of canceled appointments was correlated with work intimacy, which might suggest that patients who struggle with intimacy are not as likely to keep their provider appointments. This seems plausible because DLOPFQ Intimacy scores were also correlated with patient and provider ratings of PID–5–BF Detachment. Consequently, the DLOPFQ might hold promise in detecting medically relevant outcomes. Given that most of these are low-base-rate variables, and our sample size was small, a larger sample would be required to more carefully assess the scale’s validity and utility in this way.

Finally, we evaluated the DLOPFQ for its relationship to a measure of general physical and emotional health—the SF–36. SF–36 measures of emotional well-being and overall energy and fatigue also share strong relationships to the DLOPFQ scales, particularly with the Identity and Self-Directedness scales. Emotional well-being questions are mainly about depression and anxiety, whereas the two items about energy and fatigue are direct, face-valid items. Thus, like many measures of personality pathology, there exists a strong relationship between personality pathology and affective distress. Inspection of the other scale intercorrelations suggests that social, emotional, and physical functioning are all related to many of the self-domains (e.g., Identity and Self-Directedness scales and subscales), as well as the Intimacy scale and subscales. Empathy, subsequently, appears to be less related to general physical and emotional functioning. In considering the results collectively across all tables, it appears that empathy, as assessed on the DLOPFQ, has its strongest associations with provider ratings of LPF and trait domains. Given that this scale and subscales had the lowest interrater reliabilities, it would appear that a revision of this scale might be needed.

This study has a number of strengths, including the utilization of clinical samples and patients’ care providers. We also were able to obtain a sizable amount of data from the patients directly and their medical records. Despite these strengths, there were some notable limitations. First and foremost, our sample was rather small. Given the low-base-rate variables in the medical record, as well as many correlations that were not significant (although below p < .10), a larger sample size very likely might have detected more significant effects. We also are not sure that 132 items on the DLOPFQ is feasible for many research situations, and would likely be a challenge for use clinically. In addition, we did not evaluate the construct validity across work or school or relationship contexts (e.g., we did not obtain significant others’ or coworkers’ ratings of patients). Providers’ ratings of patients provided useful results, although these providers only see patients for brief times; thus, obtaining ratings of others who know participants better would be helpful, as would some ratings of work or school performance and validation markers from social relationships (e.g., number of divorces, relationship quality). Finally, although there was some convergence across patient and provider ratings, it should be noted that providers used different versions of questionnaires to assess level of functioning and the trait domains. All of these were one-item measures (e.g., the LPFS from DSM–5); thus, there might have been limits from the measures themselves in detecting a more accurate level of relationship across the scales.

In conclusion, the evidence for the utility and validity of the DLOPFQ, as well as its promise for use in clinical settings, appears have some preliminary support in this study, although additional research is needed to further assess the validity and utility of the questionnaire. The measure yielded correlations with theoretically related constructs, thus again providing some initial support for its construct validity. The discrepancies in patient and provider ratings are consistent with the literature, although suggesting a more careful consideration of the DLOPFQ and the ratings of others better acquainted with patients to more carefully evaluate the measure’s validity. We recommend that research continue with the DLOPFQ, as it is a promising self-report instrument to assess level of functioning.

References


### Appendix: Provider Rating Form

Please use the following scale to answer each of the next five questions:

1. = Strongly Disagree
2. = Mostly Disagree
3. = Generally Disagree
4. = Generally Agree
5. = Mostly Agree
6. = Strongly Agree

_____This patient is compliant with my instructions.

_____*I enjoy treating this patient._

_____*This patient has made good strides as a result of working with me._

_____*This patient abuses the health care system._

_____*This patient is abusive toward me._

Please rate the extent to which your patient is or is not described by each statement using the following scale:

1. = Does not describe at all
2. = Mostly does not describe
3. = Generally does not describe
4. = Generally describes
5. = Mostly describes
6. = Absolutely describes

*The patient has frequent and intense experiences of high levels of a wide range of negative emotions (e.g., anxiety, depression, guilt/shame, worry, anger), and their behavioral (e.g. self-harm) and interpersonal (e.g., dependency) manifestations.

*The patient avoids socioemotional experience, including both withdrawal from interpersonal interactions, ranging from casual, daily interactions to friendships to intimate relationships, as well as restricted affective experience and expression, particularly limited hedonic activity.

*The individual engages in behaviors that put him/her at odds with other people, including an exaggerated sense of self-importance and a concomitant expectation of special treatment, as well as callous antipathy toward others, encompassing both unawareness of others’ needs and feelings, and a readiness to use others in the service of self-enhancement.

*The patient is oriented toward immediate gratification, leading to impulsive behavior driven by current thoughts, feelings, and external stimuli, without regard for past learning or consideration of future consequences.

*The patient exhibits a broad range of culturally incongruent odd, eccentric, or unusual behaviors and cognitions, including both process (e.g., perception, dissociation) and content (e.g., beliefs).

*The patient has an ongoing awareness of his or her uniqueness, good boundaries between self and other, a consistent and regulated positive self-esteem and capable of tolerating and regulating a full set of emotions.

*The patient sets and aspires to reasonable goals based on a realistic appraisal of his/her capacities. S/he utilizes appropriate standards of behavior and can reflect on and make constructive meaning of interpersonal experience.

*The patient is capable of accurately understanding others’ experiences and motivations in most situations, comprehends and appreciates others’ perspectives (even if disagreeing), and is aware of his/her actions’ effect on others.

*The patient maintains multiple satisfying and enduring relationships in personal and community life, desires and engages in close, reciprocal relationships, and strives for cooperation and mutual benefit to self and others. S/he responds to a range of others’ ideas, emotions, and behaviors.

In order, these questions henceforth assessed negative affectivity, detachment, antagonism, disinhibition, psychoticism, identity, self-directedness, empathy, and intimacy.