# Validity of a revised Obsessive-Compulsive Personality Disorder (OCPD) trait profile and its relationship with Social Interaction Anxiety and Coping

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**Abstract**

There is evidence suggesting that the conceptualization and operationalization of Obsessive-Compulsive Personality Disorder (OCPD) is not satisfactory (Watters et al., 2019). In this study, we used an online sample (*N*=1008) to investigate the construct validity of the PID-5 OCPD trait measure. Regression analyses supported our hypothesis that rigid perfectionism captured the core phenomenology of OCPD whereas restricted affectivity and intimacy avoidance were not conceptually related to the OCPD construct. Based on the biosocial theory for overcontrol (Lynch, 2018), we introduced anxiousness and workaholism to the PID-5 OCPD trait profile. In establishing the validity of the revised OCPD trait profile, we investigated, for the first time, the role of social interaction anxiety and maladaptive coping in OCPD. Our revised OCPD profile showed good validity and was characterised by marked social interaction anxiety and dysfunctional coping mechanisms. The findings may lead to a new conceptualization of OCPD which prioritizes deficits in social interaction and coping. We identify areas that need to be prioritized in the evaluation of OCPD by mental health professionals and offer avenues for new clinical research in the field.

*Keywords:* Obsessive-Compulsive Personality Disorder, PID-5, Social Interaction, Anxiety, Coping

Obsessive-Compulsive Personality Disorder (OCPD) is one of the most prevalent personality disorders in the general population (Ansell et al., 2010) and it has been included in the Diagnostic and Statistical Manual of Mental Disorders (DSM) since its first edition (APA, 1952). It is also part of the Section III "Alternative DSM-5 model for personality disorders" (AMPD) (APA, 2013). In the AMPD, Criterion A refers to deficits in self-functioning and interpersonal relatedness whereas Criterion B has been operationalized by the 25 dimensional lower-order traits of the Personality Inventory for DSM-5 (PID-5) (Krueger et al., 2012). For OCPD, Criterion B is met when an individual displays clinically elevated levels in PID-5 rigid perfectionism and in two or more of the traits of perseveration, intimacy avoidance, and restricted affectivity. The latter two PID-5 traits were introduced in the final DSM-5 model although they were not part of the compulsivity domain of the initial six-domain DSM-5 trait model (Crego et al., 2016; Krueger et al., 2012).

Four studies have focused explicitly on investigating the PID-5 trait-based profile of OCPD (Crego et al., 2014; Liggett & Sellbom, 2018; Liggett et al., 2018; Liggett et al., 2017). These papers have questioned the validity of the trait-based operationalization of OCPD. Rojas and Widiger (2017) raised the same concern in their meta-analysis and confirmed that coverage of OCPD in DSM-5 is inadequate, even at the level of diagnostic criteria. Moreover, in a recent meta-analysis of 25 data sets, which included assessment of the degree of convergence between PID-5 traits and the Section II PDs, Watters et al. (2019) concluded that the evidence largely supports the PID-5 operationalization of all PDs in Section III, with the noteworthy exception of OCPD.

Evaluation of the validity of the AMPD has relied, almost exclusively, on assessment tools (interviews and questionnaires) that are based on the DSM Section II PD polythetic criteria. This limits the potential for mapping relevant terrain in the domain of mental distress and personality. Moreover, the ICD-10 categorical diagnosis differs from DSM-5 which continues to include hoarding and miserly spending style as diagnostic criteria of OCPD, despite evidence against such classification (Hummelen et al., 2008). In spite of some important studies published recently on OCPD (Atroszko et al., 2020; Pinto et al., 2018; Wheaton & Ward, 2020), this personality disorder is still poorly investigated, and little is known about phenomenological aspects and correlates that can aid assessment and therapy of individuals with OCPD.

Our study used a new operationalization of OCPD to shed light on some of these aspects and to investigate putative areas of OCPD nosology. We used the IPDE-SQ OCPD as a measure of criterion validity and we operationalized OCPD by removing - from the PID-5 trait profile - restricted affectivity and PID-5 intimacy avoidance, i.e., traits for which there is weak support that they are part of OCPD (Watters et al., 2019). This lack of empirical evidence is in line with the theory of Maladaptive Overcontrol (MO)/OCPD (Lynch, 2018) which posits that people with OCPD develop chronic tendencies for inhibition of emotional expression as opposed to the spontaneous outward display of emotion. Lynch argues that due to their low tolerance of stress, individuals with OCPD experience high emotional arousal in social interactions which makes them avoid social encounters (despite craving intimacy), suppress emotional expressions or exhibit context-incongruent emotional expressions, such as smiling when distressed or angry. This understanding of OCPD, focusing on anxiety, is at odds with the PID-5 OCPD traits of restricted affectivity - referring to "Little reaction…; indifference and aloofness in normatively engaging situations" (APA, 2013, p.779) - and intimacy avoidance - referring to lack of interest for "close or romantic relationships, interpersonal attachments and intimate sexual relationships" (APA, 2013, p.768).

 We believe that the PID-5 traits of intimacy avoidance and restricted affectivity should be replaced by their root cause, the PID-5 trait of anxiousness and by workaholism. The latter traits are core MO/OCPD lower-order traits (Lynch (2018). Lynch argues that maladaptive OC/OCPD is the product of transacting influences at three levels. First, genetic diatheses for *high threat sensitivity*, *high inhibitory control*, *low reward* and *superior attention for details*. Second, early environmental experiences characterized by fear and worthlessness emphasizing *high performance and control over one’s thoughts and emotions.* Finally, genetic diatheses and environmental experiences result in a fearful and rigid coping style which is manifested in *intrapersonal and interpersonal control, workaholism, moral certitude,* *suppression of negative emotional expressions* and *aversive tension* across time and context. For example, even in situations that most others experience as safe, people with maladaptive OC experience high threat when entering new situations and they may check compulsively for safety cues to ensure that all is well (Lynch et al., 2016).

Of relevance to the introduction of the anxiousness trait in our revised OCPD profile is the central tenet of Lynch’s theory that OCPD is primarily a disorder of heightened anxiety and sense of urgency (Lynch, 2018). This is also the thesis of Hertler (2015b) who argues that trait anxiety is the cardinal feature of OCPD. Accordingly, Strober et al. (2007) have provided evidence suggesting that the neurocircuitry of anxiety may be a useful heuristic framework for the interpretation of symptoms across different disorders sharing OCPD traits. It is therefore apt that OCPD is part of the Anxious-Fearful cluster of PDs.

The trait of *workaholism* is consistent with the DSM history of OCPD taxonomy. It was one of the domains which operationalized compulsivity in the initial six-domain model of the DSM-5 trait model (Krueger et al., 2012), recent operationalisations of OCPD (Sadri et al., 2019), and Lynch’s theory (Lynch, 2018). The measure of workaholism used in this study was validated in line with the compulsive striving domain of maladaptive overcontrol (Lynch et al., 2016) and more specifically with the higher order domain of bio-temperamental constraint – which is, in turn, consistent with the Disinhibition-Constraint system by Clark (2005). Lynch et al. (2016) argue that people with OCPD are at the high constraint end of this system. Because they are genetically predisposed to lower and quicker satiation of reward, individuals high in constraint will accordingly display high avoidance of potentially unhealthy rewarding experiences - see also Redden and Haws (2013). Instead, they are competitive and driven individuals, they leave limited time for enjoyment or fun, they can tolerate high distress in order to achieve a task, and they continue to work when this is counterproductive. Moreover, in a study by Liggett and Sellbom (2018), workaholism -measured with the Computerized Adaptive Test of Personality Disorder (CAT-PD) Static Form (Simms et al., 2011) - emerged as the most relevant OCPD maladaptive trait after rigid perfectionism.

Our analytic strategy served two purposes. First, to provide evidence to support the construct validity of the revised OCPD profile. Second, to expand the evidence base of clinical correlates of OCPD. Specifically, this was the first study which investigated the relationship between OCPD and maladaptive coping strategies using the Brief COPE inventory (Carver, 1997) - modified to reflect coping at the trait level - and the first study to link a measure of social interaction anxiety with the OCPD trait profile.

In line with the above, we hypothesized that PID-5 rigid perfectionism and PID-5 perseveration would be stronger predictors of OCPD (measured by the IPDE-SQ) than the PID-5 restricted affectivity and PID-5 intimacy avoidance (**H1**).We operationalized workaholism/compulsive striving by validating a new scale and we further hypothesized that workaholism and PID-5 anxiousness would predict OCPD over and above the PID-5 OCPD traits of rigid perfectionism, perseveration, restricted affectivity, and intimacy avoidance (**H2**). Evidence on the construct validity of the new operationalization was obtained by developing a nomological network for the *revised* OCPD construct and examining correlations with measures of variables related to OCPD, i.e., depression, PID-5 depressivity, PID-5 anhedonia, anxiety, PID-5 anxiousness, and well-being. We hypothesized that these correlations would be positive and the relative strength of these correlations was expected to be greater for the *revised* OCPD model compared to IPDE-SQ OCPD (**H3**).

We investigated two more issues which have not been explored in the OCPD literature. First, according to Lynch the key problem for individuals with OCPD is that their innate susceptibility to perceived social threats makes them prone to initiate defensive responses in the absence of powerful social stressors. This prompts a delayed return to a calm state following withdrawal of a real or perceived threat (Lynch et al., 2016). This hypothesis is in line with the focus of Lynch’s theory on poor social signalling skills (Lynch et al., 2016) and the social deficits linked with OCPD (Rowland et al., 2017; Wheaton & Pinto, 2019). As social stimuli are generated in the context of social interaction, we hypothesized that OCPD would be a strong positive predictor of social interaction anxiety (**H4**). Second, to our knowledge there is no research on the coping mechanisms that people with OCPD employ. The Brief Cope is a questionnaire that is frequently used to assess a broad range of coping strategies in clinical and research settings. Useful composite subscales have been produced e.g., emotion-focused, problem-focused, and dysfunctional coping (Cooper, Katona, & Livingston, 2008; Cooper, Katona, Orrell, et al., 2008). Our hypothesis was that OCPD would yield medium to strong significant correlations with dysfunctional coping strategies (behavioural disengagement, denial, self-destruction, self-blame, substance use, venting) small correlations with problem-focused strategies (active coping, instrumental support, planning) and small correlations with emotion focused strategies (acceptance, emotional support, humour, positive reframing, religion) (**H5**).

# Method

## Design and procedure

The study was approved by the University of Southampton Research Ethics Committee. An online, questionnaire-based, cross-sectional design was used. Potential participants were approached via adverts posted on the E-Folio platform of the University and in the Figure Eight contributors’ platform (https://www.figure-eight.com/). University students received research credits for their participation. Figure Eight participants were awarded a standard amount (50p) for taking part and an additional amount (£3) if they achieved 100% accuracy in the random response scale, included in the survey. All participants provided informed consent by agreeing to the online consent statement and clicking on the option to continue to the online survey. Participants were debriefed on completion.

## Participants

Participants were required to be over 18 years of age and native or fluent speakers of English. In total, 1814 participants completed the survey, of which 1437 participants were recruited from Figure Eight (FE) and 377 were undergraduate students at the University of Southampton. Of these, 302 students and 805 FE participants passed the random response scale, i.e., answered correctly all items of the random response scale. Thirteen participants completed the survey in less than 10 minutes. Six participants left all answers of the IPDE-SQ scale blank. The data of these participants were deleted.

The mean age of participants in the final sample (*N* = 1088) was 29.94 years old (*SD*= 11.90). Of these 559, (51.42 % of the sample) were female participants (age *M* = 28.51, *SD* = 12.36) and 526 (48.49% of the sample), were male participants (age *M* = 31.51, *SD* = 11.16), with one participant identifying as other and four with missing values. Most participants were British (21.86%), followed by Hispanic (19.46 %), Any other White background (17.99 %), Any other mixed background (15.50 %) and White American (6.27 %). Figure 1 shows the ethnicity of the entire sample.

## Materials

The study included the following self-report questionnaires presented in random order:

**IPDE-ICD-10 International Personality Disorder Examination Screening questionnaire (IPDE-SQ)-**OCPD subscale: The IPDE SQ (Loranger et al., 1997) is a self-administered form which includes 77 DSM-IV or 59 ICD-10 items. Participants respond either *True* or *False* to each item. The eight items pertaining to OCPD were administered. Studies that have investigated the psychometric properties of the 59 ICD-10 screener have shown that the IPDE screener is a valid instrument for diagnosing PDs, including OCPD, and across several samples including the community and nonclinical populations (Slade & Forrester, 2013). Cronbach's alpha for the subscale in this study was .60.

**Workaholism:** For the purpose of the study, we developed a measure of compulsive working. It is a self-report 6-point Likert-type scale (1 = *disagree completely* to 6 = *agree completely*). The workaholism scale is a subscale of the 42-item Obsessive Compulsive Personality Disorder Inventory (OC-PDI) which was developed and validated as part of the PhD thesis of the first author, in line with the OCPD conceptualization by Lynch et al. (2016). The subscale of workaholism had good convergent validity producing medium to large size correlations with measures of OCPD and good divergent validity producing small size correlations with measures of negative affect, stress, and depression, and good convergent validity with measures of OCPD; these were the IPDE-SQ OCPD subscale (Loranger et al., 1997), the nonadaptive and adaptive personality (SNAP-2) OCPD subscale (Clark et al., 2014), and the PID-5 OCPD (Krueger et al., 2012). The scale with instructions is presented in Appendix A (Supplementary Material). Additional information regarding the validity of the scale can be provided by the first author.

**Personality Inventory for DSM-5 (PID-5):** The PID-5 (Krueger et al., 2012) is a 220-item, self-report personality trait assessment scale for people aged 18 and older, of Likert- type format (0= *none of the time* to 3= *all of the time*). It operationalises the section III Personality Trait Model of personality disorders (APA, 2013, pp. 773-774) and it covers 25 lower-order trait facets. The subscales used in this study were: rigid perfectionism (10 items; Cronbach's alpha =.90), perseveration (9 items; Cronbach's alpha =.86), intimacy avoidance (6 items; Cronbach's alpha =.85), restricted affectivity (7 items; Cronbach's alpha =.85), and anxiousness (9 items; Cronbach's alpha =.90) (APA, 2013).

**World Health Organisation- Five Well-Being Index (WHO-5):** The WHO-5 is a 5-item, self-reported measure of current mental well-being. Participants rate each statement on a six-point Likert-type scale (*at no time =* 0 to *all of the time =* 5) with regard to the past two weeks. The WHO-5 is unidimensional, producing a final total score of well-being of 0 to 100 with 100 representing optimal well-being. A systematic review by Topp et al. (2015) showed that the scale is valid both as a screening measure for depression and as an outcome measure in clinical trials and has wide applicability across different study fields. Cronbach's alpha of the scale in this study was .91.

**Hospital Anxiety and Depression Scale (HADS):** The HADS was originally developed for use with patients under treatment in general hospital settings (Zigmond & Snaith, 1983). It consists of 14 items, seven pertaining to anxiety and seven to depression, and it is scored on a four-point Likert-type (0-4) scale. Participants indicate how they have been feeling in the past week. Anchor points for the Likert-type responses vary depending on the item scale. The HADS produces two scores, one for anxiety and the other for depression. Subscale scores of >8 points (out of 21) denote considerable symptoms of anxiety or depression. Cronbach's alphas were .86 for the anxiety subscale and .79 for the depression subscale.

**Brief COPE.** The Brief COPE (Carver, 1997) is a measure of adaptive and maladaptive coping developed from the original COPE inventory (Carver et al., 1989) to reduce participant response burden. The brief version was developed by omitting two scales of the full COPE and reducing all subscales to two items per subscale. An additional subscale was also included. Overall, 14 coping strategies are measured: self-distraction (Cronbach's alpha =.51), active coping (Cronbach's alpha =.75), denial (Cronbach's alpha =.68), substance use (Cronbach's alpha =.95), use of emotional support (Cronbach's alpha =.83), use of instrumental support (Cronbach's alpha =.84), behavioural disengagement (Cronbach's alpha =.63), venting (Cronbach's alpha =.60), positive reframing (Cronbach's alpha =.710), planning (Cronbach's alpha =.72), humour (Cronbach's alpha =.81), acceptance (Cronbach's alpha =.58), religion (Cronbach's alpha =.85), and self-blame (Cronbach's alpha =.78). These are scored on a four-item Likert type scale (1 = *I haven't been doing this at all* to 4 = *I've been doing this a lot*)*.* The Brief Cope instructs participants to rate statements which reflect ways they use to cope with problems: ("*There are many ways to try to deal with problems. These items ask what you've been doing to cope*"). We opted for a non-situation version, more akin to personality coping, and therefore less context dependent. Therefore, the instructions were revised to reflect "*ways you've been coping with the stress in your life in general, i.e., most of the time*".

**Social Interaction Anxiety Scale (SIAS).** The SIAS is a 20-item measure of anxiety in social interactional situations, developed to capture distress when meeting and talking with other people and in particular fear of negative evaluations within social interactions. It is scored on a five-point Likert-type scale (1= *not at all* to 5 = *extremely*). Gore et al. (2002) have shown that the SIAS is an accurate measure of trait Social Anxiety and a better predictor than general trait anxiety measures of anxious response to a social challenge. The version without the reverse items was used in this study (Rodebaugh et al., 2007) and Cronbach's alpha was .89.

**Difficulties in Emotion Regulation Scale Short Form (DERS-SF)**: the DERS-SF (Kaufman et al., 2016) was developed based on a clinical model of emotion regulation. The DERS-SF asks participants to indicate how often the items apply to themselves, rated on a Likert-type scale from 1 = *almost never* to 5 = *almost always*. The scale measures six distinct but related dimensions: non-acceptance of emotional responses (Cronbach's alpha =.83), difficulties engaging in goal-directed behaviour (Cronbach's alpha =.89), impulse control difficulties (Cronbach's alpha =.90), lack of emotional awareness (Cronbach's alpha =.74), limited access to emotion regulation strategies (Cronbach's alpha =.80), and lack of emotional clarity (Cronbach's alpha =.82).

**Random Response scale**: A five item random response scale was developed to serve as an indicator of paying attention and following instructions. The scale was dispersed throughout the survey and items varied in content and Likert-type. Example items included: "I was born the 30th of February" (*True*/*False*) and "Please choose the option Agree somewhat".

# Results

The data was imported into SPSS version 25 and was examined for data cleaning purposes. A missing value analysis showed that only 0.85% of the data were missing and missing data did not follow a systematic pattern. Missing values were replaced with the mean.

## Regression of IPDE-SQ OCPD onto PID-5 rigid perfectionism, perseveration, restricted affectivity, and intimacy avoidance

Multiple linear regression was used to test if PID-5 rigid perfectionism and PID-5 perseveration would be stronger predictors of OCPD than restricted affectivity and intimacy avoidance. The IPDE-SQ OCPD was the outcome variable. All parametric assumptions were met and the regression model gave a good fit to the data, *F* (4, 1083) = 167.26, *p* < .001, *R*2 = .382. Table 1 reports the beta coefficients and the corresponding t-test for each predictor in the regression. Consistent with **Hypothesis 1**, only PID-5 rigid perfectionism and perseveration were significant positive predictors of IPDE-SQ OCPD.

## Regression of IPDE-SQ OCPD onto PID-5 OCPD workaholism and PID-5 anxiousness

Hierarchical multiple regression was used to test if workaholism and PID-5 anxiousness would predict OCPD over and above the PID-5 OCPD traits (**Hypothesis 2**). The IPDE-SQ OCPD was the outcome variable, the four AMDP PID-5 OCPD traits were entered in the first block of the regression, and the two traits of the *revised* AMPD OCPD were entered in the second block. The final regression model gave a good fit to the data, *F* (6, 1081) = 138.25, *p* < .001, *R*2 = .424, increased from *R*2 = .382 of the first model. PID-5 intimacy avoidance, and PID-5 restricted affectivity were not significant predictors in either regression model. Perseveration was not significant in the final model, perhaps due to some conceptual overlap with workaholism. However, it was retained in our revised OCPD trait profile given that it has fared well in studies of coverage of DSM-5 PDs (see Table 2).

## Nomological network for the revised OCPD

The correlations displayed in Table 3 were used to assess the nomological network for the *revised* OCPD (composite of the z-scores of PID-5 rigid perfectionism, PID-5 perseveration, PID-5 anxiousness, and workaholism). The IPDE OCPD was included as a criterion variable. Fisher's *r*‐to‐*z* transformations were conducted to test whether the magnitudes of the correlations with the *revised* OCPD versus the correlations with the IPDE OCPD were statistically different from one another at *p* < .05. Correlations were of the hypothesized directions and magnitude for the revised OCPD except for the awareness facet of the DERS-SF. The magnitude of correlations, in line with **Hypothesis 3**, were significantly larger for the revised OCPD scale.

**Regression of the revised OCPD onto social interaction anxiety**

 A linear regression was used to test if OCPD (PID-5 rigid perfectionism, PID-5 perseveration, PID anxiousness, workaholism) would be a positive predictor of social interaction anxiety as measured by the SIAS. The model gave a good fit to the data *F*(1, 1086) = 438.02, *p* < .001, *R*2 = .287. The revised OCPD model yielded a positive, significant relationship with SIA, *β* = .54, *p* < .001 (CI = .141-.170). The result was cross-validated by regressing the SIAS onto the IPDE-SQ OCPD scale. Consistent with **Hypothesis 4,** the model gave a good fit to the data, *F*(1, 1086) = 132.13, *p* < .001, with a small effect size *R*2 = .108, and a positive beta coefficient, *β* = .33, *p* < .001 (CI =.127-.179).

**OCPD association with coping**

**Hypothesis 5** stated that OCPD would be associated with specific coping mechanisms. This was tested with Pearson’s correlations (Table 4). The results partly supported the hypothesis: associations with behavioural disengagement, denial, and self-blame yielded positive medium to large size correlations. Planning, although an adaptive problem-focused strategy, also showed a significant positive correlation with OCPD.

# Discussion

Empirical evidence has indicated that intimacy avoidance and restricted affectivity are not part of the OCPD construct (Watters et al., 2019); this was supported in this study (Hypothesis 1). Hypothesis 1 complemented previous research which investigated whether (and which) PID-5 OCPD traits of the alternative DSM-5 predict categorical OCPD (Liggett & Sellbom, 2018; Rojas & Widiger, 2017). It seems that the erroneous introduction of the two traits discussed in PID-5 OCPD can be attributed to poor face and/or construct validity.

In DSM-5, the trait of restricted affectivity refers both to the emotional experience and the behavioural expression of the experience (APA, 2013, p.769), i.e., two different domains. However, no empirical evidence has shown that people with OCPD have blunted affect or diminished emotional experience. Lynch argues that constricted emotional expression – but not blunted affect - is a feature of overcontrolled disorders and OCPD (Lynch, 2018). Similarly, regarding intimacy avoidance, the same behaviour often has a different underlying meaning or function in different PDs. Thus, an individual with schizotypal PD will avoid or will be indifferent to social contact because they have no interest in developing intimate relationships. Instead, an individual with OCPD will avoid social contact in order to cope with the anxiety that social interaction entails notwithstanding that they may value the development of intimate relationships - see Banerjee et al. (2009) for a similar distinction.

In view of the above, we focused instead on workaholism and anxiousness. Though related to PID-5 perseverance, workaholism is more akin to the obsessive-compulsive character that relationship with work takes for individuals with OCPD. It is arguably surprising that compulsive working is not already part of the PID-5 OCPD construct. Excessive devotion to work was introduced as a diagnostic criterion of OCPD in the third edition of the DSM (APA, 1980, p. 327) and was retained in DSM-IV (APA, 1994) and the text-revised version (APA, 2000). In the present study, it was shown that it contributes to variance over and above the PID-5 OCPD traits (Hypothesis 2) and is highly correlated with rigid perfectionism. Moreover, anxiousness which is a core feature of OCPD according to two prominent theories of OCPD aetiology and phenomenology (Hertler, 2015a; Lynch et al., 2015) also predicted variance over and above the four PID-5 OCPD traits (Hypothesis 2). This confirms previous findings that anxiety disorders – not just OCD (Albert et al., 2004) - are highly frequent in people with OCPD symptoms and traits. In our study anxiousness correlated most strongly with emotion regulation facets, well-being, PID-5 perseveration, and self-blame and less strongly with PID-5 rigid perfectionism which is the focal point of OCPD. The weaker association with rigid perfectionism is interesting and merits further investigation.

In summary, we offer preliminary evidence that the traits of workaholism and anxiousness are conceptually related to OCPD. We hope that this evidence will contribute to the discussion of implications for clinical practice and the direction of future research in the field of OCPD. Future research in clinical samples is warranted to further examine the possibility that these traits be introduced, in place of intimacy avoidance and restricted affectivity, in the PID-5 and other measures of OCPD. Such investigation could not only increase the specificity of the measures with regards to OCPD assessment but would also offer new avenues in treatment formulations for patients.

**Revised OCPD construct nomological network**

Furthermore, we obtained evidence on the validity of the new operationalization of OCPD (PID-5 rigid perfectionism, PID-5 perseveration, PID-5 anxiousness, workaholism) by investigating correlations with measures of variables of interest: depression, PID-5 depressivity, PID-5 anhedonia, anxiety, PID-5 anxiousness, wellbeing, and emotion dysregulation. The inclusion of a measure of emotion regulation allowed us to provide an additional criterion of the construct validity of the proposed revised OCPD trait profile. Steenkamp et al. (2015) and Smith et al. (2017) debunked the misconception that emotion regulation difficulties are specific to borderline personality disorder (BPD): in these studies participants with OCPD reported significantly higher levels of emotion regulation difficulties compared to controls. We hypothesized that the correlations of OCPD traits with the variables of interest would be positive and the strength of these correlations was expected to be greater for the revised OCPD model compared to the IPDE-SQ OCPD (Hypothesis 3). Correlations were consistent with the hypothesized magnitude and direction. The revised OCPD yielded strong positive correlations with all variables: the strongest associations were obtained for anxiety, depressivity, and anhedonia. Correlations of the study variables with the IPDE-SQ OCPD were of the same direction but of significantly smaller magnitude. This provides strong evidence on the convergent validity of the revised OCPD measure. An unexpected finding was that OCPD was not significantly associated with the non-awareness facet of emotion regulation. This is in contrast to Steenkamp et al. (2015) who found that patients with OCPD scored significantly higher in this DERS facet than healthy controls. A plausible explanation is that individuals with poor emotion awareness misconstrue mindful awareness of emotions with ruminative engagement in cognitive-emotional processes. It should also be noted that the facet of awareness has generally not fared well in psychometric studies of the DERS and DERS-SF (Kaufman et al., 2016). The strong associations with depressivity and anhedonia are also of interest. Anhedonia is possibly the strongest predictor of severity outcomes in depression (Ducasse et al., 2018). Interestingly, Kosti et al. (2008) found that anhedonia is highly prevalent in patients with OCPD, and that Cognitive-Analytic Therapy (CAT) has been proven effective in reducing anhedonia, depression, and anxiety of these patients with OCPD. Recent pharmacological treatments with strong anti-anhedonic effects in the context of depression (Delfino et al., 2021) also merit consideration when treating patients with OCPD and comorbid depression.

**OCPD and social interaction anxiety**

Our results support that OCPD and intimacy avoidance are not conceptually related and that social interaction anxiety could be a domain of importance for people with OCPD. In the present study OCPD was a strong positive predictor of social interaction anxiety (Hypothesis 4), a hypothesis investigated for the first time. Therefore, social interaction anxiety, operationalized by a well validated measure of the concept, was strongly linked to two independent measures of OCPD. The finding complements Cain et al. (2015) who reported interpersonal deficits associated with OCPD. It is also in agreement with Lynch (2018) who argues that individuals with OCPD are socially anxious (rather than avoidant of intimacy) so that they either avoid non-structured social situations or may withstand a social situation because of a compulsive need to do the right thing.

Our results may have clinical implications. Social interaction has adverse impact on psychological wellbeing indices (Al-Amarei, 2014). It is important to investigate the relationship between fear of negative evaluation (Collins et al., 2005) - a key aspect of social anxiety-, social interaction anxiety, and depression in individuals with OCPD, in order to support psychological formulations. It is also important to investigate whether valence of the preceding social interaction moderates the levels of anxiety, depression, and efforts to inhibit either positive or negative social interactions (Bailey et al., 2019). In terms of psychological treatment, the results appear to support the focus on social signalling of Radical Openness - Dialectical Behaviour Therapy (RO-DBT), a treatment developed specifically for patients with overcontrolled traits (Lynch et al., 2016).

**Coping**

The capacity to delay reward, the increased distress tolerance, perseverance, and constricted expressivity associated with OCPD (APA, 2013; Lynch, 2018) might be misconstrued as an increased capacity to tolerate stress. In fact, OCPD had moderate to strong associations with dysfunctional strategies for coping with stress: denial, behavioural disengagement, and self-blame. Smaller correlations were found for problem-focused strategies and emotion focused strategies (Hypothesis 5). Therefore, psychological formulations of OCPD should consider the coping repertoire of individuals with OCPD traits. For example, OCPD patterns of anxious feelings, extreme self-blame, and self-critical doubt are recurring (Gilbert, 2009; Petrocchi & Cheli, 2019) and are posited to be maintained via a vicious cycle in which distress inhibits the ability to adopt alternative perspectives and explanations, while hyperactivating the sense of threat.

Τhe increased use of self-blame is consistent with the excessive self-imposed standards and the perfectionism of people with OCPD (Diedrich & Voderholzer, 2015; Pfohl & Blum, 1991). It was also found that OCPD was associated with a higher degree of planning, which is an expected finding. However, most of the COPE strategies have an adaptive or maladaptive function depending on context and purpose. Planning is generally considered to be an adaptive coping mechanism that allows for effective problem solving. But, in this case, use of planning by people with OCPD traits most possibly captured the compulsive planning that permeates many aspects of this disorder. The use of behavioural disengagement is congruent with the current scientific understanding and literature on OCPD (de Reus & Emmelkamp, 2012; Pinto et al., 2011) and it is plausible that this occurs under severe stress and when other coping strategies (e.g., overworking) have failed. Denial is a related facet which is bound to impair problem solving and it could be a maladaptive reaction to the excessive standards that individuals with OCPD pose on themselves and/or the task at hand.

Our results have important implications for the conceptualization of OCPD as well as the highly comorbid depression in individuals with OCPD (Berking et al., 2014). Our study paves the way for a more detailed investigation of coping and emotion regulation in OCPD and their relationship with functional impairment across a range of occupational, social, and psychological spheres. For example, evidence suggests specific patterns of association between core beliefs and psychopathology profiles as well as symptom severity in personality disorders (Davidson, 2008; Thimm, 2010). Given the salient role of coping under stress in cognitive (Segal et al., 2018) and acceptance-based treatments (Hayes et al., 2009) assessing for patterns in emotion and coping as part of psychotherapy formulation may offer new avenues for exploring causal paths between obsessional traits and depression. Such lines of research will prove relevant in assessment and treatment of OCPD.

## Limitations and Future Research

 To ensure generalization, future research should focus on adults with mental health difficulties meeting criteria for DSM-5 personality disorders as traits are differently related depending on the study population. Ideally, future research should employ samples drawn from clinical settings *and* samples of people with OCPD in the general population. In addition, our sample consisted predominantly of white British participants and therefore it was not representative of wider diversity, nationally and internationally. Second, results relied exclusively on self-report data. Although we controlled for random responding, the results are subject to acquiescent response style, socially desirable responding, extreme and moderacy response styles, as well as biases associated with one method alone. In line with the multi trait-multimethod approach (Campbell & Fiske, 1959) the use of cross-informant data would be of value in future research in OCPD traits. Data from others and use of structured psychiatric interviews would help to overcome typical problems in assessment of PDs stemming from the fact that people with a PD may be less able to perceive themselves accurately and may be less aware of the effect of their behaviour on other people. Third, there are challenges to online administration of surveys rendering generalization of estimates to population parameters somewhat more difficult. There are safeguards that researchers can use and in our study samples were drawn from both undergraduate students and contributors in online crowdsourcing platforms (a combination will produce more generalizable findings).

Future research should replicate the analyses in stratified independent samples of participants in the community and in adult mental health settings by means of paper-and-pencil surveys to provide greater confidence in estimates. Nevertheless, our study showed that compulsive working and anxiousness could be included in measures of the OCPD construct and that social interaction anxiety is a domain of importance in OCPD. We further showed that coping strategies are linked with OCPD and we demonstrated the importance of assessment and evaluation of OCPD in the context of these two transdiagnostic concepts.

**Table 1**

*Unstandardized and Standardized Coefficients of IPDE-SQ OCPD Regressed onto PID-5 AMPD of OCPD*

| Model | Unstandardized Coefficients | Standardized Coefficients | *t* | *p* | 95.0% CI for *B* |
| --- | --- | --- | --- | --- | --- |
| *B* | Std. Error | Beta | Lower | Upper |
| 1 | (Constant) | -.27 | .19 |  | -1.42 | .155 | -.64 | .10 |
| PID-5 perseveration | .41 | .10 | .13 | 4.03 | .000 | .21 | .61 |
| PID-5 rigid perfectionism | 1.57 | .09 | .54 | 17.67 | .000 | 1.39 | 1.74 |
| PID-5 intimacy avoidance | .06 | .08 | .02 | .73 | .467 | -.10 | .22 |
| PID-5 restricted affectivity | -.07 | .08 | -.02 | -.81 | .418 | -.23 | .10 |

**Table 2**

*Unstandardized and Standardized Coefficients of IPDE-SQ OCPD Regressed onto PID-5 AMPD of OCPD, Workaholism, PID-5 Anxiousness*

| Model | Unstandardized Coefficients | Standardized Coefficients | *t* | *p* | 95.0% Confidence Interval for *B* |
| --- | --- | --- | --- | --- | --- |
| *B* | Std. Error | Beta | Lower | Upper |
| 1 | (Constant) | -.27 | .19 |  | -1.42 | .155 | -.64 | .10 |
| PID-5 rigid perfectionism | 1.57 | .09 | .54 | 17.68 | .000 | 1.39 | 1.74 |
| PID-5 perseveration | .41 | .10 | .13 | 4.03 | .000 | .21 | .61 |
| PID-5 intimacy avoidance | .06 | .08 | .02 | .73 | .467 | -.10 | .22 |
| PID-5 restricted affectivity | -.07 | .08 | -.02 | -.81 | .418 | -.23 | .10 |
| 2 | (Constant) | -1.30 | .22 |  | -6.03 | .000 | -1.72 | -.88 |
| PID-5 rigid perfectionism | 1.27 | .09 | .43 | 13.62 | .000 | 1.08 | 1.45 |
| PID-5 perseveration | .12 | .12 | .04 | .99 | .322 | -.12 | .35 |
| PID-5 intimacy avoidance | .02 | .08 | .01 | .29 | .770 | -.13 | .18 |
| PID-5 restricted affectivity | -.02 | .08 | -.01 | -.19 | .851 | -.18 | .15 |
| workaholism | .07 | .01 | .21 | 7.95 | .000 | .05 | .08 |
| PID-5 anxiousness | .28 | .08 | .11 | 3.28 | .001 | .12 | .44 |

**Table 3**

*Descriptives and Correlations of Revised OCPD Model and IPDE-SQ OCPD with Study Variables*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable |  *M* | *SD* | Revised OCPD Model | IPDE-SQ OCPD | Fisher's z |
| Revised OCPD Model | 0.00 | 3.13 |  |  |  |
| IPDE OCPD | 3.87 | 1.95 | 0.61\*\* |  |  |
| Depression | 11.49 | 3.62 | 0.49\*\* | 0.31\*\* | 5.057\*\* |
| PID5 Depressivity | 1.52 | 0.64 | 0.58\*\* | 0.24\*\* | 9.714\*\* |
| PID-5 Anhedonia | 1.88 | 0.65 | 0.56\*\* | 0.29\*\* | 7.642\*\* |
| Anxiety | 13.69 | 4.47 | 0.62\*\* | 0.28\*\* | 10.185\*\* |
| Well Being | 19.07 | 5.69 | -0.46\*\* | -0.25\*\* | 5.634\*\* |
| ER Strategies | 6.85 | 3.12 | 0.55\*\* | 0.29\*\* | 7.449\*\* |
| ER Acceptance | 7.08 | 3.31 | 0.46\*\* | 0.22\*\* | 6.373\*\* |
| ER Impulse | 6.09 | 3.18 | 0.42\*\* | 0.23\*\* | 4.972\*\* |
| ER Goals | 9.16 | 3.50 | 0.47\*\* | 0.22\*\* | 6.671\*\* |
| ER Awareness | 7.05 | 2.78 | 0.00\* | 0.04\* | **-0.932\*** |
| ER Clarity | 6.14 | 2.91 | 0.45\*\* | 0.20\*\* | 6.567\*\* |

*Note*.\*\* *p* < .001,\**p* <. 05

**Table 4**

*Correlations of Revised OCPD Scale with Coping Strategies*

|  |  |
| --- | --- |
|  | Revised OCPD |
| Behavioral disengagement |  | **.37\*\*\*** |
| Denial |  | .**33\*\*\*** |
| Self-distraction |  | .27\*\*\* |
| Self-blame |  | .**51**\*\*\* |
| Substance Use |  | .14\*\*\* |
| Venting |  | .26\*\*\* |
| Active coping |  | .10\*\* |
| Instrumental support |  | .10\*\* |
| Planning |  | .29\*\*\* |
| Acceptance |  | .15\*\*\* |
| Emotional support |  | .02\* |
| Humour |  | .07\* |
| Positive reframing |  | .01\* |
| Religion |  | -.01\* |

*Note.* \*\*\* *p* < .001,\*\* *p* < .01,\**p* <. 05

Figure 1 *Ethnicity of participants in the final sample (N = 1088)*



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