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**Investigating the Relationship Between
Perfectionism and Self-Compassion:
Research Protocol**

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Abstract

Background

Perfectionism is a multidimensional personality trait characterised by high personal standards, self-critical evaluation and concern over mistakes (Frost, Marten, Lahart, & Rosenblate, 1990). Preliminary findings suggest that some forms of perfectionism are negatively correlated with self-compassion (Neff, 2003a), a mindset characterised by being moved by your own suffering and acknowledging that you are worthy of care and understanding (Brion, Leary, & Drabkin, 2014). However, there have been no further studies that investigate this relationship.

Method

A combined perfectionism measure (79 items; Stoeber & Madigan, 2016) and the Self-Compassion Scale (26 items; Neff, 2003a) will be administered online. This study requires a sample of 400-500 participants.

Analysis

- Part I: Psychometric test construction via item reduction and factor analysis.
- Part II: Testing a structural equation model of the relationship between perfectionism and self-compassion.

Discussion

This study will develop a new measure of perfectionism and provide new information about how perfectionism relates to self-compassion. Its findings have the potential to significantly impact therapeutic approaches to mental health and wellbeing.

Keywords: perfectionism, self-compassion, scale development, psychometrics, factor analysis, structural equation modelling

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Background

Perfectionism is a multidimensional personality trait that is characterised by high personal standards, excessive self-critical evaluation and concern over mistakes (Frost et al., 1990; Hill & Curran, 2015). Within recent years, the most commonly used terminology for its two dimensions is that of ‘perfectionistic strivings’ (PS) and ‘perfectionistic concerns’ (PC; Stoeber & Otto, 2006). Whilst PS is conceptualised as a positive dimension that consists of high personal standards and intrinsically motivated perfectionism, PC is considered to be solely negative, focused on concern over making mistakes, extrinsically motivated perfectionism, self-doubt about actions and a perceived discrepancy between an individual’s actual achievements and their high expectations for themselves (Gotwals, Stoeber, Dunn, & Stoll, 2012; Stoeber & Otto, 2006). Individuals high in PC are also characteristically fearful of negative social evaluation and display negative reactions to imperfection (Gotwals et al., 2012).

PC is associated with an array of negative mental health outcomes, including anxiety, stress, depressive symptoms, avoidant coping strategies, and eating disturbances (Békés et al., 2015; Moroz & Dunkley, 2015; Muyan, Chang, Jilani, & Yu, 2015; Shanmugam & Davies, 2015; Smith, Saklofske, & Yan, 2015; Smith, Saklofske, Yan, & Sherry, 2015). In comparison, PS usually leads to relatively few negative outcomes and is often associated with positive characteristics such as satisfaction with life and high levels of trait emotional intelligence (Smith, Saklofske, & Yan, 2015). One notable exception to this is that, in clinical populations, both dimensions of perfectionism have been found to contribute towards negative outcomes, possibly because outcome expectancy is a key factor in determining whether perfectionism leads to positive or negative outcomes (e.g. Boone & Soenens, 2015; Cheng et al., 2015). Individuals have also been found to display ‘clinically-relevant perfectionism’ (Shafran,

Cooper, & Fairburn, 2002), investing their self-worth almost obsessively in a domain that has high personal salience, such as the pursuit of thinness in individuals with some eating disorders (Boone & Soenens, 2015). In these cases, both PC and PS are thought to interact with existing psychopathology to bring about negative outcomes.

Preliminary findings have also suggested that PC is negatively correlated with self-compassion (Neff, 2003a), a mindset that is characterised by being moved by your own suffering and acknowledging that you are worthy of care and understanding (Brion et al., 2014). It consists of three main components: a) *Self-kindness* – being kind and understanding to oneself rather than harsh and critical; b) *Common humanity* – seeing one’s experiences as part of the larger human condition (that is, that we are all imperfect and fallible beings); and c) *Mindfulness* – non-judgemental awareness of one’s painful thoughts and feelings (Neff, 2003b). As far as the authors are aware, there have been no studies since Neff (2003a) that specifically investigate the relationship between perfectionism and self-compassion.

In a recent publication, Joachim Stoeber and colleagues (Stoeber & Madigan, 2016) recommended that the best way to measure perfectionism is to form a composite measure by combining two or more factors from several existing scales, thus capturing the broad, higher-order dimensions of PS and PC more fully than if using single indicators or proxies (Stoeber & Madigan, 2016). However, to date, this combination has not been psychometrically assessed.

Aims and Objectives

Aim I: Construct and psychometrically assess a combined measure of perfectionism.

Objectives:

- 1.1 Perform item analysis and reduction on the 79 items obtained by combining the factors recommended by Stoeber and Madigan (2016)
- 1.2 Explore the dimensionality of remaining items using exploratory factor analysis
- 1.3 Test whether the model from 1.2 fits using confirmatory factor analysis on a separate sample

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Aim II: Investigate how each dimension of perfectionism is related to self-compassion.

Objectives:

- 2.1. Use the perfectionism scale developed in Part I to test a structural equation model of the hypothesised relationship between perfectionism and self-compassion (see Figure 1).

Indicators for PS and PC are not included at this stage as they cannot be identified until Part I is complete. Whilst ideally the model would be as presented in Figure 1, if needed there will be freedom within the model to operationalise self-compassion as either an observed or latent variable based on a) The number of indicators established for each dimension of perfectionism, and b) Final sample size.

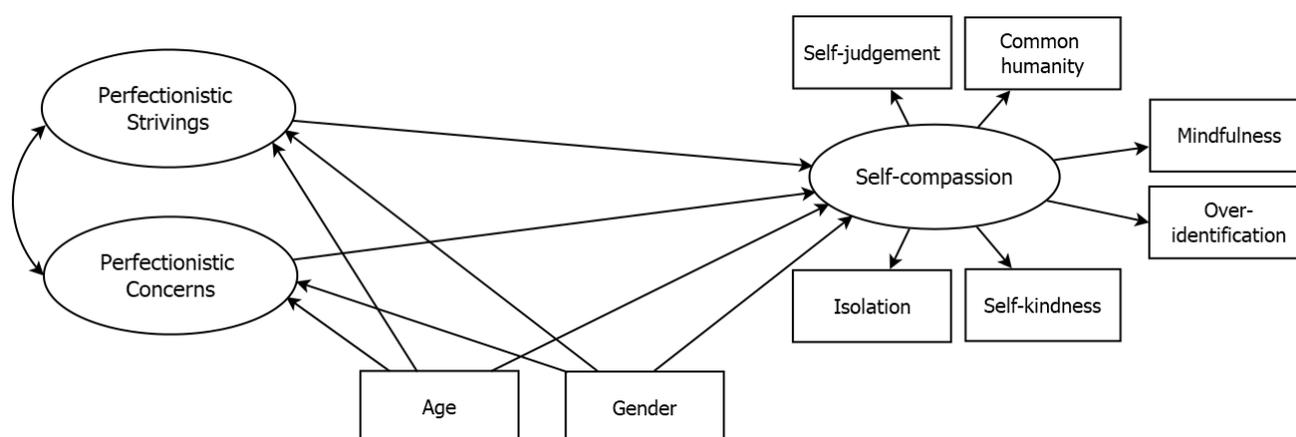


Fig. 1. Hypothesized model relating perfectionism to self-compassion

Method

Participants

Participants will be adults, recruited online. Advertisements will be placed via the lead author's social media accounts, and the study will be further advertised via the British Psychological Society's Twitter and Facebook accounts. At this stage, it is not possible to

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ascertain how many participants will be needed for Part II of the study as indicators for the latent variables of perfectionistic strivings (PS) and perfectionistic concerns (PC) will only be identified during Part I. However, MacCallum, Widaman, Zhang and Hong (1999) recommend that a sample size of at least 100-200 participants is needed for a factor analysis, and that, depending on other variables within the analysis (such as levels of communality and overdetermination of factors) sample sizes of 300 or above may be necessary. As Part I of this study contains both an exploratory and confirmatory factor analysis, a sample size of 400-500 participants is therefore deemed necessary in order to ensure that factor analysis solutions within this sample have a good degree of accuracy in recovering the true factor structure as it exists within the population (MacCallum et al., 1999).

Materials

Data will be collected via a series of online questionnaires, the use of which has been found to decrease the social desirability of participant responses (e.g. Joinson, 1999). It is estimated that the questionnaires will take no more than 15-20 minutes to complete.

Perfectionism. Perfectionism will be measured using a combination of eight factors from four scales to create a 79-item measure – see Table 1 for factors utilised. Items will be presented as a series of statements and participants will be asked to rate on a 5-point Likert scale how strongly they agree or disagree with each statement. The perfectionistic strivings (PS) subscale includes statements such as “I have extremely high goals” whilst the perfectionistic concerns (PC) subscale includes statements such as “To me, a mistake equals failure”. The factors report high levels of reliability and validity across a number of studies (Stoeber & Madigan, 2016) and the original authors report a Cronbach’s α of between .80 and .91 for all factors (Frost et al., 1990; Hewitt & Flett, 1991, 2004; Hill et al., 2004; Slaney, Rice, Mobley, Trippi, & Ashby, 2001).

Self-compassion. Self-compassion will be measured using the Self-Compassion Scale (SCS; Neff, 2003a). The SCS is a 26-item measure that presents participants with a series of statements and asks them to indicate on a 5-point Likert scale how often they behave in the

stated manner. The SCS includes statements such as “I’m disapproving and judgmental about my own flaws and inadequacies” and “I’m kind to myself when I’m experiencing suffering”. The SCS consists of six factors: Self-kindness; self-judgement; common humanity; isolation; mindfulness; and over-identification. The SCS has also shown good internal consistency, with Neff (2003b) reporting a Cronbach’s α of between .75 and .81 across all six factors.

Table 1

Scales capturing Perfectionistic strivings and Perfectionistic concerns

Measures	Reference	Subscales recommended as indicators of..	
		Perfectionistic strivings	Perfectionistic concerns
FMPS ^a	Frost et al. (1990)	Personal standards	Concern over mistakes
HF-MPS ^b	Hewitt & Flett (1991, 2004)	Self-oriented perfectionism	Socially prescribed perfectionism
APS-R ^c	Slaney et al. (2001)	High standards	Discrepancy
PI ^d	Hill et al. (2004)	Striving for excellence	Concern over mistakes

Note. Table is a partial reproduction of that found in Stoeber and Madigan (2016), p.33.

^a Frost Multidimensional Perfectionism Scale

^b Hewitt-Flett Multidimensional Perfectionism Scale

^c Revised Almost Perfect Scale

^d Perfectionism Inventory

Proposed Statistical Analysis

All models will be specified and analysed in Mplus 6.12 (Muthén & Muthén, 2010).

Part I: Scale Development

The dataset will firstly be split in half. Data from the first half will be used for the *Item reduction* and *Dimensionality* stages, whilst data from the second half will be used for the *Confirmatory factor analysis* stage. It is expected that there will be data from at least 200 participants in each half.

Item reduction. Item performance will be analysed, and items will be flagged for removal based on factors such as missingness, response distribution, item discrimination and validity, and internal consistency.

Dimensionality. Items retained will then be used to explore the scale's dimensionality by running an exploratory factor analysis using principal axis factoring. Factors will be retained if eigenvalues exceed both Kaiser-Guttman's criterion of 1.0 (Gie Yong & Pearce, 2013; Kaiser, 1970) and the eigenvalue generated for that factor by the parallel analysis (Horn, 1965; O'Connor, 2000). Scree plots (Cattell, 1966) will also be examined to further clarify the number of dimensions that the scale can be organised into. Items that fail to load at 0.3 on any factor, or that cross-load at >0.3 on more than one factor will be flagged for removal. The model will then be re-run to establish the internal consistency of the reduced item measure.

Confirmatory factor analysis. Confirmatory factor analysis will then be performed using data from the second half of the dataset. Model fit will be adjudged using χ^2 , Bentler's Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the root mean square error of approximation (RMSEA) and the standardised root mean square residual (SRMR). Discussion of cut-off values for these indices will be included as part of future reports.

Part II: Testing the relationship between perfectionism and self-compassion

The full dataset will then be used to test a structural equation model of how the latent variables perfectionistic strivings (PS) and perfectionistic concerns (PC) relate to the latent variable self-compassion as outlined in Figure 1. Total scale scores for the SCS factors of self-kindness, self-judgement, common humanity, isolation, mindfulness and over-identification will be treated as indicator variables for self-compassion, and items identified during Part I will be treated as indicator variables for the latent variables of PS and PC. Age and gender will also be included as covariates. Model fit will be assessed based on the same indices that are detailed for the confirmatory factor analysis.

Discussion

This study will construct and psychometrically assess a new measure of perfectionism based on scale combinations recommended by Stoeber and Madigan (2016) and extend the work of Neff (2003a) by testing the hypothesized relationship between the dimensions of perfectionism and self-compassion.

The study has a number of strengths. Firstly, Part I of the study will result in the development of a new measure of perfectionism that has the potential to capture the broad, higher-order dimensions of perfectionistic strivings and perfectionistic concerns in a way that has not previously been realized. Secondly, the findings from Part II of the study will provide new information about how perfectionism relates to self-compassion and whether some forms of perfectionism are a barrier to developing a self-compassionate mindset. This information has the potential to significantly impact therapeutic approaches to mental health and wellbeing. Finally, the use of structural equation modelling as a method has the advantage of allowing simultaneous analysis of all model variables, and means that measurement error is not aggregated in a residual error term for the latent variables created.

Dissemination of results will be achieved through conference presentations and publications in peer-reviewed journals.

Declarations, Funding and Ethical approval

This research complies with the Data Protection Act (1998) and the Freedom of Information Act (2000). It has received ethical approval from Nottingham Trent University's Research Ethics Committee (ref: 16/02/2017) and will be conducted in accordance with the British Psychological Society's Code of Ethics and Conduct (2009).

The authors declare that there are no competing interests with respect to the research outlined in this protocol.

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