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The mediating role of intolerance of uncertainty on the relationships between perfectionism dimensions and psychological adjustment/ maladjustment among mothers

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ABSTRACT

The present study investigated a possible mediating effect of intolerance of uncertainty (IU) on the relationship between perfectionism and psychological adjustment/maladjustment as well as the unique and common effects of perfectionism dimensions—personal standards (PS) and concern over mistakes (CM)—on these constructs. Five hundred mothers participated an online survey, completing measures of perfectionism (PS and CM), IU, and psychological adjustment/maladjustment (life satisfaction, depression, and rearing stress). We found that both PS and CM were positively correlated with IU. Mediation analyses indicated that IU mediated the relationship between CM and psychological adjustment/maladjustment regardless of whether PS were partialled out. In contrast, IU had a suppression effect on the relationship between PS and psychological adjustment/maladjustment, but only when CM was not partialled out. Commonality regression analysis revealed that the unique effect of PS on IU (< 0.1%) was much smaller than the common effects of PS and CM on IU (12.3%). In addition, CM had stronger unique effects on all variables than did PS. These findings highlight the importance of investigating both the unique and common effects of perfectionism dimensions on outcome variables. Our findings further our understanding of the mechanisms underlying the relationships between perfectionism dimensions and psychological adjustment/maladjustment.

1. Introduction

Perfectionism is a personality trait composed of two superordinate dimensions—perfectionistic strivings and perfectionistic concerns (e.g., Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Stoeber & Gaudreau, 2017; Stoeber & Otto, 2006). Perfectionistic strivings capture aspects reflecting perfectionist personal standards of performance and a self-oriented striving for perfection. In contrast, perfectionistic concerns capture aspects such as concerns about making mistakes, doubts about actions, feelings of discrepancy between one's standards and performance, and fears of negative evaluation by others if one fails to be perfect (e.g., Stoeber & Gaudreau, 2017; Stoeber & Otto, 2006). A growing body of literature has indicated that perfectionistic concerns are consistently associated with poor psychological adjustment and increased psychological maladjustment, whereas such relationships for perfectionistic strivings are inconclusive and complicated (e.g., Gotwals, Stoeber, Dunn, & Stoll, 2012; Siros & Molnar, 2017; Stoeber & Gaudreau, 2017; Stoeber & Otto, 2006). Because both

dimensions share some overlap, perfectionistic concerns sometimes appear to suppress the adaptive aspects of perfectionistic strivings (e.g., R. W. Hill, Huelsman, & Araujo, 2010; Stoeber & Gaudreau, 2017). As a result, the positive relationships between perfectionistic strivings and psychological adjustment, as well as the negative relationships between perfectionistic strivings and psychological maladjustment, often become robust when perfectionistic concerns are statistically partialled out.

Understanding the mechanisms underlying the relationships between perfectionism dimensions and psychological adjustment/maladjustment would improve our understanding of these associations. In this study, we focused on intolerance of uncertainty (IU), and investigated a possible mediating role of IU for the associations between perfectionistic dimensions and psychological adjustment/maladjustment. We also applied commonality regression analysis to examine the unique and common effects of perfectionism dimensions on IU and psychological adjustment/maladjustment (e.g., Nimon, Henson, & Gates, 2010).

1.1. The mediating role of IU

IU is the tendency to perceive, interpret, and respond to uncertain situations as threatening (e.g., Dugas et al., 2005; Dugas, Schwartz, & Francis, 2004). Individuals who are high in IU find uncertainty stressful and have difficulty functioning in uncertain situations (e.g., Buhr & Dugas, 2002). IU is an important vulnerability and transdiagnostic factor that contributes to various psychopathologies (e.g., Boswell, Thompson-Hollands, Farchione, & Barlow, 2013; Gentes & Ruscio, 2011; Reuther et al., 2013).

Some previous studies have revealed associations between perfectionism and IU. For example, one prior study indicated that both perfectionistic strivings and concerns were positively associated with IU, although the relationships were stronger for perfectionistic concerns (Buhr & Dugas, 2006). Another study found that IU mediated the relationship between perfectionism (i.e., a composite score of both perfectionistic strivings and concerns) and severity of obsessive-compulsive disorder symptoms (Reuther et al., 2013). Because perfectionists may feel that they need to make perfect decisions before responding in order to achieve perfect outcomes, they have trouble tolerating a lack of information (Buhr & Dugas, 2006; Reuther et al., 2013). Therefore, current evidence suggests that both perfectionistic strivings and concerns are positively associated with IU, and that IU would mediate the associations between perfectionistic dimensions and psychological maladjustments.

1.2. Unique and common effects of perfectionism dimensions

There is ongoing debate about how perfectionism dimensions should be analyzed and interpreted, because the strength or direction of the associations between them and psychological adjustment/maladjustment sometimes changes after controlling for the contributions of the other dimension (A. Hill, 2014; Stoeber & Gaudreau, 2017). Although previous research often used partial correlation and multiple regression analyses to investigate the unique effects of perfectionistic dimensions, common effects of the dimensions on adjustment/maladjustment remain poorly understood. Commonality regression analysis may offer new insights into perfectionism by identifying both the unique and common effects of predictors on outcome variables (e.g., Kraha, Turner, Nimon, Zientek, & Henson, 2012; Nimon et al., 2010; Nimon & Oswald, 2013). Commonality regression analysis is a method of variance partitioning designed to identify the proportions of variance in the dependent variable that may be uniquely attributed to each of the independent variables, as well as those proportions of variance that can be attributed to various combinations of independent variables. In addition to calculation of beta coefficients, this analysis provides separate measures of unique variance explained by each predictor (R^2_{unique}: unique effect) and shared variance for combinations of predictors (R^2_{common}: common effect). This analysis is also useful to identify suppression variables by revealing negative common effects (e.g., Nimon et al., 2010).

Although no previous perfectionism study has applied commonality regression analysis, there is some indirect evidence that perfectionistic concerns should have stronger unique effects on psychological adjustment/maladjustment and IU than perfectionistic strivings. For example, previous studies have revealed that the associations between perfectionistic concerns and psychological adjustment/maladjustment (e.g., the absolute value of correlation and beta coefficients) were often stronger than corresponding associations for perfectionistic strivings (e.g., Black & Reynolds, 2013; R. W. Hill et al., 2010; Siros & Molnar, 2017). Another study has reported that perfectionistic concerns explain more variance in depression symptoms than perfectionistic strivings (Gluschkoff et al., 2017). Regarding IU, one previous study reported that the positive correlation between IU and perfectionistic concerns was stronger than that for perfectionistic strivings (Buhr & Dugas, 2006). We therefore predicted that the unique effects of perfectionistic

concerns on psychological adjustment/maladjustment and IU would be larger than those of perfectionistic strivings. In addition, previous studies have indicated that the associations between perfectionistic dimensions and psychological adjustment/maladjustment often become stronger after accounting for the contribution of the other dimension, suggesting the existence of mutual suppression (e.g., Stoeber & Gaudreau, 2017). We therefore predicted that the common effects for psychological adjustment/maladjustment would be negative values.

1.3. The present study

We sought to further understand mechanisms underlying the relationships between perfectionism dimensions and psychological adjustment/maladjustment by focusing on IU as a possible mediator. More specifically, we tested whether IU would mediate the relationship between perfectionism dimensions and psychological adjustment/maladjustment with and without controlling for the contribution of the other dimension. We studied mothers, who have been an important focus in perfectionism research (e.g., Flett, Hewitt, Oliver, & Macdonald, 2002; Gelabert et al., 2012; Oddo-Sommerfeld, Hain, Louwen, & Schermelleh-Engel, 2016). To this end, we conducted a cross-sectional survey, focusing on life satisfaction as a measure of psychological adjustment, and depression and rearing stress as measures of psychological maladjustment. We measured personal standards (PS) and concern over mistakes (CM) as indicators of perfectionistic strivings and concerns, respectively (Stoeber & Gaudreau, 2017).

2. Methods

2.1. Participants

Data were collected from five hundred married mothers (M_{age} = 35.0, SD = 4.8) through a web survey (Rakuten Research). Mean marriage and postpartum months were 71.5 months (SD = 31.1) and 29.5 months (SD = 17.8), respectively. Within them, 320 mothers had one child, 173 mothers had two children, and 7 mothers had 3 children.

2.2. Measures

Cronbach alphas, means, and standard deviations of measures used in the present study are summarized in Table 1.

2.2.1. Perfectionism

We used the Japanese version of the Multidimensional Perfectionism Scale (MPS-J, Sakurai & Ohtani, 1997), which was developed based on the Frost Multidimensional Perfectionism Scale (FMPS: Frost, Marten, Lahart, & Rosenblate, 1990) to measure perfectionistic dimensions in Japanese participants. The MPS-J includes four items that measure concern over mistakes and five items that measure personal standards (see Appendix A). Participants rated each item on 6-point scale ranging from 1 (Not at all) to 6 (Very much). A prior study provided evidence of reliability (e.g., test-retest reliability, rs > 0.70) and validity for this measure (Sakurai & Ohtani, 1997).

2.2.2. Intolerance of uncertainty

We used the Japanese version of the Short Intolerance of Uncertainty Scale (J-SIUS, Takebayashi, Sasagawa, Sugiura, & Sakano, 2012), which was a translation of the original Short Intolerance of Uncertainty Scale (Carleton, Norton, & Asmundson, 2007). Participants rated each item using a 5-point scale ranging from 1 (Not at all) to 5 (Very much). A prior study has revealed evidence of reliability (e.g., α = 0.88) and validity (e.g., positively correlations with the Penn-State Worry questionnaire, the State-Trait Anxiety Inventory, and the Center for Epidemiologic Studies Depression Scale: rs > 0.47, Takebayashi