Personality and Individual Differences 47 (2009) 938–943

Contents lists available at ScienceDirect

Personality and Individual Differences

journal homepage: www.elsevier.com/locate/paid

Gender differences in health anxiety: An investigation of the interpersonal model of health anxiety

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ARTICLE INFO

Article history:
Received 13 January 2009
Received in revised form 6 July 2009
Accepted 22 July 2009
Available online 18 August 2009

Keywords:
Health anxiety
Hypochondriasis
Gender differences
Reassurance seeking

ABSTRACT

Health anxiety (HA) involves persistent worry about one's health and beliefs one has an illness or may contract a disease. In the present study, gender differences in Noyes et al.'s (2003) interpersonal model of health anxiety (IMHA) were examined. Using a sample of 950 undergraduates (674 women; 276 men), multigroup confirmatory factor analyses suggested the measurement model for key dimensions of the IMHA (i.e., reassurance-seeking, alienation, worry, and absorption) were invariant across gender. This suggests key dimensions of this model are applicable to and generalizable across women and men. Coefficients alpha for and bivariate correlations between these IMHA dimensions were also roughly comparable across women and men. As hypothesized, mean levels of reassurance-seeking and worry were significantly higher in women compared to men. No gender differences were observed in mean levels of alienation or absorption. Reassurance-seeking and worry appear salient in the interpersonal behavior and emotional life of women with HA. The present study helps to clarify gender differences in the IMHA and other HA models involving similar variables.

1. Introduction

Health anxiety (HA) involves persistent worry about one's health and beliefs one has an illness or may contract a disease (Taylor & Asmundson, 2004). Excessive reassurance-seeking, an intense focus on bodily sensations, and a sense of alienation from other people often accompany HA (Longley, Watson, & Noyes, 2005). In the present study, we adopted a dimensional model of HA where HA levels are conceptualized as lying along a continuum from mild to severe. Our use of a dimensional model is consistent with research suggesting HA is a continuous, quantitative dimension rather than a discrete, qualitative category (Ruscio & Kaczetow, 2009). We also studied a relatively unselected sample of undergraduates whose HA levels may be conceptualized as lying, on average, at the mild end of the HA continuum. Research on such symptoms is needed, as mild levels of HA are a risk factor for severe levels of HA (Taylor & Asmundson, 2004). The study of mild levels of HA may therefore help to clarify the origins of severe forms of HA (e.g., *DSM-IV* hypochondriasis). Mild levels of HA are also tied to problems such as missing school, healthcare overuse, psychiatric comorbidity, and strained relationships (Hadjistavropoulos & Lawrence, 2007). There is thus a need to increase our understanding of mild levels of HA (which we refer to as HA). In particular, researchers have called for studies explicating interpersonal factors in HA (Noyes et al., 2003), as empirical work in this area is only just emerging.

1.1. Interpersonal model of health anxiety (IMHA)

According to the IMHA (Noyes et al., 2003), HA represents a maladaptive expression of attachment insecurity. This model holds that persons with HA were exposed to negative parenting styles and aversive experiences (e.g., illness) which predispose a pattern of attachment insecurity and somatic *absorption* (i.e., a focus on one's bodily sensations). Illness behaviors that typify HA are viewed as an attempt to alleviate attachment insecurity and somatic concerns by eliciting care from others. And *reassurance-seeking* (i.e., seeking care from other people regarding one's perceived health problems) is seen as the main way in which persons with HA attempt to elicit care. However, as persons with HA are insecurely attached, their reassurance-seeking is persistent––even after extensive reassurance is provided.

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doi:10.1016/j.paid.2009.07.020

As an indirect expression of attachment needs, and a form of interpersonally aversive behavior, reassurance-seeking is also thought to generate conflict with others that leads to *alienation* from others (i.e., believing other people are unconcerned with one's perceived health problems). Such conflict and alienation are believed to confirm and to exacerbate attachment insecurities (e.g., rejection fears) in persons with HA. Feeling alienated from others is also thought to exacerbate *worry* (i.e., anxiety about one's perceived health problems) in persons with HA, with both attachment insecurity and a distressing sense of alienation from others understood as amplifying worry. In attempting to reduce their worry, persons with HA are expected to again seek reassurance from others and a vicious cycle of reassurance-seeking, alienation, and worry is repeated amid an already chronic pattern of absorption (Noyes et al., 2003).

To summarize, the IMHA asserts that the insecure attachment and the somatic absorption characteristic of persons with HA lead them to engage in a vicious cycle of reassurance-seeking that results in alienation and that leads to worry. Although initial tests of the IMHA are generally promising (Noyes et al., 2003), not all studies are clearly supportive of this model (Fortenberry & Wiebe, 2007), and additional research is needed to better understand the IMHA. For instance, there is much to learn about the role of gender in the IMHA.

In the present study, we start to fill this gap in knowledge. We use Longley et al.'s (2005) multidimensional inventory of hypochondriacal traits (MIHT) to investigate gender in relation to several key dimensions of the IMHA (i.e., reassurance-seeking, alienation, worry, and absorption). Whereas alienation has generally received less attention in HA research, reassurance-seeking, worry, and absorption play a central role in other HA models, including the cognitive-behavioral model (e.g., Taylor & Asmundson, 2004). The present study thus sheds light on gender differences in the IMHA and other HA models.

1.2. Limitations of existing studies

Despite a longstanding tradition of research on gender differences in HA, this literature remains equivocal. For example, research on gender differences suggests there are higher levels of HA in women (Marcus & Church, 2003), higher levels of HA in men (Applegate et al., 2005), or equal levels of HA across gender (Noyes, Stuart, Longley, Langbehn, & Happel, 2002). When extreme levels of HA are studied as diagnostic categories (e.g., *DSM-IV* hypochondriasis), an equivocal pattern of gender differences and similarities is also observed (Creed & Barsky, 2004).

Such equivocal findings may arise from limitations of existing studies, several of which we address in the present research. For instance, using only global measures of HA, and collapsing across subscales (Marcus & Church, 2003), may obscure gender differences occurring at the subscale level. Comparing mean levels, or other values, before establishing the invariance of the underlying factor structure may also generate inaccurate conclusions (Vandenberg & Lance, 2000). Researchers typically compare women and men on a HA measure without first establishing the invariance of the underlying factor structure across gender (Applegate et al., 2005). This approach leaves basic questions unanswered. For example, are the number of factors and the pattern of factor loadings in a HA measure equivalent in women and men? Little is also known about interpersonal factors in HA (e.g., reassurance-seeking), even though such factors are regarded as important in HA (Noyes et al., 2003), making the present research a contribution to an understudied area. Most studies on gender differences in HA are also atheroetical. Without a theoretical rationale guiding research, investigation into gender differences in HA is unlikely to incrementally advance knowledge. Moreover, provision of gender-sensitive clinical services for HA depends on a clear understanding of gender differences in models and measures of HA. Though clinicians are encouraged to tailor HA treatments (Taylor & Asmundson, 2004) in accordance with unique patient attributes (e.g., gender), evidence is needed to inform gender-sensitive assessment, case conceptualization, and treatment.

1.3. Conceptualizing gender differences in the IMHA

Theory and evidence converge to suggest higher levels of reassurance-seeking in women vs. men. Compared to men, evidence indicates women have wider social networks, more communal (as opposed to agentic) traits, and more interdependent self-construals (Feingold, 1994). Such factors may set conditions for reassurance-seeking behaviors in women. Men and women may also be socialized to act according to gender roles: Women are encouraged to express their feelings and to seek social support, whereas men are encouraged to deal with stressors independently and instrumentally (Tamres, Janicki, & Helgeson, 2002). As a behavior counter to such gender roles, reassurance-seeking in men may not be well-received and may result in negative outcomes (e.g., rejection; Joiner, Alfano, & Metalsky, 1992). Overall, several factors appear to incline women to seek more (and/or men to seek less) reassurance.

Research on gender differences in worry is scarce. With little direct evidence available, we examined literature on gender differences in similar constructs such as general forms of worry (e.g., the excessive worry characteristic of those with generalized anxiety disorder). This research indicated women are higher in general forms of worry than men (Ginsberg, 2004). Various factors are believed to contribute to this gender difference, including biological factors (e.g., fluctuations in reproductive hormones in women), socio-cultural factors (e.g., socialization processes encouraging worry in women), personality factors (e.g., elevations in anxiety sensitivity in women), and cognitive factors (e.g., a greater propensity toward repetitive thoughts in women; Ginsberg, 2004). Such evidence, though indirect, suggests women may experience more worry than men.

There is, in particular, a scarcity of theory and evidence on gender differences in alienation and absorption. And what little indirect evidence is available on gender differences in alienation-related constructs (e.g., social isolation) or absorption-related constructs (e.g., bodily awareness) does not appear to support a conclusive statement regarding differences between women and men (Kolk, Hanewald, Schagen, & van Wijk, 2002).

1.4. Objectives and hypotheses

Our objective is to study the role of gender in several key dimensions of the IMHA. It is unclear if the factor structure for these variables (see Fig. 1) is invariant across women and men, as this possibility has yet to be tested. Thus we first tested if the factor structure for these four variables is invariant across gender. Such tests are important to understanding the generalizability of the IMHA (e.g., does the IMHA apply to women and to men alike?) and the clinical utility of the MIHT (e.g., is the MIHT a valid assessment device in both genders?).

Assuming a pattern of measurement invariance was observed, we also planned to test if women and men were comparable in terms of coefficients alpha for, bivariate correlations between, and mean levels of IMHA dimensions and global HA (i.e., the sum of reassurance-seeking, alienation, worry, and absorption). Alphas, correlations, and means are basic statistics with important consequences in research and clinical settings (e.g., unreliable measures