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Anxiety Sensitivity, Health Behaviors, and the Prevention and Treatment of Medical Illness

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Anxiety sensitivity (AS) has been a valuable concept for understanding anxiety-related psychopathology and its treatment, but also as an extraordinarily valuable concept for the understanding of maladaptive coping and avoidance behaviors that impact health-related conditions as diverse as smoking and overeating to exercise avoidance and poor sleep (Otto et al., 2016). We have conceptualized the role of AS in relation to maladaptive health behaviors as that of an amplifying factor, enhancing the aversiveness and need to escape/avoid negative affective or somatic experiences. Relative to health, we detailed ways in which avoidance and escape behaviors include both the avoidance of healthy behaviors as well as the engagement in maladaptive avoidance behaviors (e.g., drug use behaviors). Indeed, it is not just negative affect/sensations that drive maladaptive or impulsive behavior, but the relative intolerance of these experiences. Elevated AS is a useful marker of this sort of distress intolerance (Otto et al., 2016).

In their valuable review, Horenstein, Potter, and Heimberg (2018) have shown just how widely predictive AS is of health-related concerns. They bring to bear 160 studies to examine the ways in which AS is linked to health conditions. In doing so, they examine four specific pathways for the role of AS for: “1) increasing fear of medical condition-specific symptoms, 2) perpetuating avoidance of healthy activities, 3) promoting engagement in unhealthy behaviors, and 4) increasing risk for detrimental pathophysiological and pathomechanical alterations” (p. x). As Horenstein and associates point out, the extant literature provides the best support for the first three of these pathways. Yet, additional support is likely on the way for the fourth pathway. Ongoing research is fine-tuning our understanding of the ways in which stress, anxiety, and depression have an impact on health. Because AS is linked to psychopathology, AS should likewise have at least indirect association to these conditions—i.e., by either driving the severity of symptoms and/or moderating their impact on medical illnesses and their underlying processes (Otto et al., 2016). Thus, as new findings continue to hone our understanding of the relationship between psychopathology and health—such as the impact of anxiety and depression on inflammatory markers—AS is likely to be implicated in these processes, at least indirectly. In terms of

ongoing research agendas, it is important to determine whether a transdiagnostic risk factor such as AS can provide better prediction of pathomechanical alterations than is afforded by consideration of the syndromal endstage (i.e., disorder status), precisely because risk factors offer the potential for early intervention.

Concerning the other, and better-supported, pathways discussed by Horenstein and associates (2018), there is ample evidence that AS is linked to fears of medical condition-specific symptoms. This linkage is best documented for cardiac, respiratory, pain, and select gastrointestinal symptoms. These findings are consistent with cognitive-behavioral models for understanding illness anxiety, which center on the amplification of symptom meaning or catastrophic misinterpretations of symptoms as the factors driving symptom disability and healthcare utilization. Accordingly, one would expect that AS would be linked to hypochondriacal concerns more generally, and indeed it is (e.g., Otto et al., 1998). In addition, each of the symptom domains (pain, cardiac, respiratory, and select gastrointestinal symptoms) have mood reactive components, such that the amplification of distress associated with AS may amplify the experience of symptoms. Furthermore, fears of symptoms are linked to disorder disability. For example, AS has been shown to be important for understanding dyspnea-related avoidance, predicting the degree of avoidance beyond that explained by the level of pulmonary dysfunction. In brief, even if AS does not directly aggravate a disease process, it may intensify symptom complaints and the disability associated with the disease. Accordingly, AS has the potential to emerge as a strategy to reduce disorder-related disability when the efficacy for other medical targets is limited.

Concerning the second and third processes reviewed by Horenstein and associates (2018), AS appears to both reduce engagement in certain healthy behaviors as well as increasing engagement in select unhealthy behaviors. A prominent example of how these two processes may work together is found for the role of AS in both reducing engagement in exercise and predicting mood-induced eating patterns (see Otto et al., 2016). Reduce exercise and enhanced eating are of course the two pillars of weight management, and elevated AS deserves attention as a potential risk factor for obesity. Moreover, the role of obesity in cardiovascular disease is made worse by tobacco use and alcohol overuse, and likewise, AS is implicated in both coping motives for the overuse of these agents as well as difficulties in maintain quit attempts (see Otto et al., 2016).

What does all this mean for health in the United States? In sum, AS is linked to the top three preventable causes of disease and death in the United States: tobacco use, poor diet and physical inactivity (obesity), and alcohol overuse. Understanding the scope of these effects has clear public health significance. As noted by Horenstein and associates (2018), exercise interventions can be used to decrease AS. Exercise interventions also have broad effects on anxiety, depression, and stress resilience in addition to overall health, and as such it can be considered a broad spectrum intervention. For example, for the subset of smokers characterized by high AS, there is evidence that exercise interventions can be used to aid smoking cessation, with documented action through reductions in both AS and dysphoria (Zvolensky et al., 2018). Accordingly, the re-introduction of exercise among sedentary smokers with elevated AS holds the potential of a compelling “1:2 punch:” helping smokers

quit and establishing the health behavior of regular exercise in this cardiovascularly at-risk cohort.

There is also a growing literature on disorder prevention through brief treatment of AS. Recent review indicates that AS can be readily modified by brief interventions using interoceptive (internal) exposure procedures, exercise-based interventions, cognitive bias modification, psychoeducation, or the combination of these factors (Schmidt, Allan, Knapp, & Capron, in press). Such preventive interventions have shown initial promise for disorders and conditions as diverse as panic disorder, smoking, and suicidal behavior.

In summary, Horenstein, Potter, and Heimberg (2018) have effectively illustrated the scope of associations between AS and health-related concerns, and have underscored the importance of attending to the potential of AS assessment and intervention for understanding and ameliorating medical conditions. As we further detail here, the range of applications of AS intervention and prevention includes the top three preventable risks of mortality in the United States.

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