Evaluating the Role of Anxiety Sensitivity in Smoking Outcome Expectancies Among Regular Smokers

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The present study evaluated the association between the lower-order facets of anxiety sensitivity construct (physical, mental incapacitation, and social concerns) and positive (expectancies about negative affect reduction) and negative (expectancies about negative personal consequences) smoking outcome expectancies. Participants were 90 young adult regular smokers [37 females; M age = 23.4 years (SD = 8.9); mean number of cigarettes/day = 11.7 (SD = 6.1)] with no history of psychopathology or nonclinical panic attacks recruited from the general population. Anxiety sensitivity physical concerns and mental incapacitation concerns, as indexed by the Anxiety Sensitivity Index (ASI; S. Reiss, R. A. Peterson, M. Gursky, & R. J. McNally, 1986), were significantly and incrementally associated with smoking outcome expectancies, as indexed by the Smoking Consequences Questionnaire (SCQ; T. H. Brandon & T. B. Baker, 1991), for negative affect reduction as well as negative personal consequences; the observed effects were over and above the variance accounted for by theoretically relevant smoking history characteristics, gender, and negative affectivity. Results are discussed in relation to better understanding motivational processes for smoking among groups at heightened risk for developing panic psychopathology.

KEY WORDS: anxiety sensitivity; panic; smoking; expectancies; smoking cessation.

Anxiety sensitivity (AS), defined as the fear of anxiety and anxiety-related sensations (Reiss & McNally, 1985), is a traitlike cognitive characteristic that can predispose individuals to the development of panic-related problems. For example, if a person believes bodily sensations are a sign of imminent personal harm or threat, this “high AS” individual would experience escalating levels of anxiety and perhaps a panic attack when exposed to such sensations. Since the late 1980s, separate lines of research have generally supported the AS model of panic disorder vulnerability (see Taylor, 1999). Furthermore, studies suggest an association between AS and

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certain types of substance use problems (Otto, Safren, & Pollack, 2004). Although the vast majority of work in this domain has focused on alcohol-related problems (see Stewart, Samoluk, & MacDonald, 1999), potential relationships between AS and smoking remain largely unexplored.

Zvolensky, Schmidt, and Stewart (2003) proposed an affect regulation model of smoking and panic disorder to help understand the high co-occurrence and interplay between such problems. This model suggests that among regular smokers, AS should be associated with increased motivation to smoke to reduce negative affect and aversive bodily sensations. In particular, as high AS persons believe negative affect-related cues (e.g., restlessness, bodily agitation, anxiety) are personally dangerous, they should be highly motivated to smoke in response to anxiety-related distress as a way of coping with such affective disturbances. That is, as these persons are sensitive and emotionally reactive to aversive interoceptive cues, smokers with high levels of AS may be particularly apt to smoke as a way of avoiding or regulating negative affect (i.e., self-administration aimed principally at terminating or avoiding nicotine withdrawal or related aversive states like anxiety). This type of perspective is premised on the large empirical literature that documents smokers attribute their smoking, at least in part, to its mood-regulating functions and believe that smoking will reduce negative affect states (Kassel, Stroud, & Paronis, 2003). Consistent with the panic-smoking model, investigations have thus far shown that AS is correlated with smoking motives to reduce negative affect, but not other reasons (e.g., pleasure, handling, taste), among regular smokers (Comeau, Stewart, & Loba, 2001; Novak, Burgess, Clark, Zvolensky, & Brown, 2003; Stewart, Karp, Pihl, & Peterson, 1997).

Although there is evidence that individual differences in sensitivity to anxiety and anxiety-related symptoms is associated with negative affect reduction motivation for smoking among regular smokers, very little work has addressed the relationship between AS and smoking outcome expectancies. Smoking motivation and smoking outcomes expectancies are distinct but related cognitive constructs. Specifically, motivation to smoke reflects the degree to which one is interested in smoking to achieve a certain effect, whereas outcome expectancies reflect anticipation of the expected consequences of smoking (Brandon, Juliano, & Copeland, 1999). Research has found that positive smoking outcome expectancies (e.g., relaxation, mood enhancement) are associated with greater levels of nicotine consumption and dependence (Ahijevych & Wewers, 1993; Copeland, Brandon, & Quinn, 1995; Downey & Kilbey, 1995). Other research has shown that outcome expectancies for mood regulation are associated with the tendency to experience negative affect (Cohen, McCarthy, Brown, & Myers, 2002). Such findings underscore the importance of better understanding the extent to which individual differences in emotional vulnerability relate to smoking outcome expectancies in efforts to explicate the nature of smoking behavior among high-risk groups.

An important next step in research on panic and smoking would be to empirically evaluate the extent to which AS, a well-established panic-specific risk factor (Schmidt, Lerew, & Jackson, 1997), relates to outcome expectancies in an effort to better understand the nature of smoking behavior among regular smokers. Indeed, as smokers relative to nonsmokers are at heightened risk for developing panic-related problems (Breslau & Klein, 1999; Isensee, Wittchen, Stein, Hofler, &