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# Gender Differences in Affective Response from Warning Pictorials on Cigarette Label

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#### Abstract

Consideration of designing an emotional warning pictorial on cigarette labels which will be used in public place, the effect from gender differences should be concerned. The aim of this study was to examine gender differences in emotional response from warning pictorials on cigarette labels. Sixty engineering students participated in this study. Half of them are males. Neutral affect manipulation using IAPS was conducted prior the experiments. Participants were asked to rate their emotional responses from sixty warning pictorials (positive, neutral, negative). Results revealed that both male and female participants could perceive target emotional affective warning pictorials, although there were some differences. Male participants perceived greater arousal than female participants which contradicts to previous study. Implications for affective warning pictorial design concerning gender difference.

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Keywords: Affective response; Emotional response; Warning pictorials; Gender differences

#### Introduction

About 5.8 trillion cigarettes were smoked worldwide in 2014, cigarette consumption was still on the rise<sup>1</sup>. Globally, nearly a third of men ages 15 years or older, around 820 million people, were smokers<sup>2</sup>. While, approximately 176 million daily smokers worldwide were women<sup>3</sup>. However, there was a significant smoking rate

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reduction in the United Kingdom, Australia, Brazil, and other countries that progressively implemented tight tobacco control laws<sup>4</sup>. One of them was the regulation of using warning pictorials on cigarette labels.

The warning pictorials on cigarette labels were used as a communication tool to inform people to appreciate potential hazards<sup>5</sup>. While there was a study reported that people's affective states has an influence on hazard perception from warning pictorials<sup>6</sup>. Their results indicated that people, only male subjects, who was in positive affective states perceived greater hazard level from standard industrial warning pictorials than those who was in neutral and negative affective states. In this study, affective includes feelings, emotions, and moods<sup>7</sup>.

This finding has emphasized that emotion may play a crucial role in human information processing from warning pictorials. Besides from the fact that there are some differences between genders in the processes of sending and receiving of emotion<sup>8</sup>, which depend on factors as culture, context of situation, and socialized etc.<sup>9</sup>. Walter<sup>11</sup> found that women showed their tears more often as five times over than men, or women could perceive greater negative affect than men<sup>12</sup>. Some researchers found that women had reported their experienced emotions of sadness and fear more frequently and intensely than men<sup>13</sup>. Thus, it was hypothesized that women could perceive greater negative affect from the negative warning pictorials than men.

On the other hand, In general, man has a better control for their emotional expression than women<sup>10</sup>. Some studied revealed that men tend to report more intense feeling of angry<sup>14</sup> and tend to be more aggressive than women<sup>15</sup>. While, some study found that men perceived positive affect from environment greater than women<sup>16</sup>. Thus, we hypothesized that men would perceive greater positive affect from the warning pictorials than women.

Consideration of designing an emotional warning pictorial on cigarette labels which will be used in public place, the effect from gender differences should be concerned. If man and woman perceive emotion differently from warning pictorials, this may influence their hazard perception from warning pictorials regarding to the result from previous study of Jiamsanguanwong and Umemuro<sup>6</sup>. The issues of gender differences in emotional response from warning pictorials on cigarette label would be worth investigated. Thus, the purpose of this study was to examine the gender differences in affective response from warning pictorial on cigarette label. Implication of present study would support designers of warning pictorials on cigarette label concerning of gender differences in affective responses from their warning pictorials.

#### 2. Methods

#### 2.1. Participants

Sixty Thai undergraduate and graduate engineering students participated in this study. Half of them are males. Their age ranged from 20 to 28 years (M = 21.27, SD = 1.89) for male, and 20 to 30 years (M = 22.4, SD = 2.08) for female.

#### 2.2. Stimulus material

#### 2.2.1. Affective picture stimuli

Twenty International Affective Picture System (IAPS) pictures were selected based on standard valence rating score as neutral affect stimulus<sup>17</sup>. Ten IAPS pictures rating for males were selected: valence scores ranged from 4.05 to 5.19 (M = 4.56, SD = 1.54) and arousal scores ranged from 4.10 to 5.00 (M = 4.56, SD = 2.02). Ten IAPS pictures rating for females were selected: valence scores ranged from 4.38 to 4.64 (M = 4.51, SD = 1.43) and arousal scores ranged from 2.59 to 5.44 (M = 3.85, SD = 2.02). The valence rating ranged from 1: unpleasantness, to 9: pleasant, and arousal rating ranged from 1: calm, to 9: excited. For ethical reasons, pictures of mutilated and erotic imagery were excluded.

#### 2.2.2. Warning Pictorials

Sixty warning pictorials were collected from free sources as Thai health<sup>18</sup>, and Tobacco Labelling Regulations<sup>19</sup> based on the ideas generated from survey and brainstorming for the possible warning pictorials on cigarette label.

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