

### Introduction

- Fear of physical harm, measured as illness or injury sensitivity (Carleton et al., 2005), has been suggested as a fundamental fear (Taylor, 1993) enabling more complex fears (e.g., hypochondriasis) and somatic concerns (e.g., chronic pain) (Hadjistavropoulos & Asmundson, 1998; VanCleeef et al., in press)
- The revised Illness/Injury Sensitivity Index (ISI-R; Carleton et al., in press) has potential to inform our understanding of mechanisms underlying chronic health conditions
- Although the ISI-R prescribes separate analyses of illness and injury sensitivity, it does not assess differences in fear, anxiety, or duration of anticipated consequences
- Failing to consider the time involved with an ailment (e.g., months vs. years) may overshadow significant aspects of assessing the experience of fear or anxiety; that is, asking a person if they are afraid to be transiently ill or injured versus asking if they are worried about becoming chronically ill or injured
- The present study had two purposes: (1) construct measures of illness and injury that are sensitive to the aforementioned issues, and (2) assess the factor structure and psychometric properties of each

### Method

- Participants were a healthy sample of 251 individuals
  - 191 women (*Mean age* = 22.7 years; *SD* = 5.3)
  - 60 men (*Mean age* = 22.9 years; *SD* = 3.8)
- 39 items, including the nine ISI-R items and 30 new items, were assembled for possible inclusion in the new illness and injury sensitivity measures. The items were rated on a Likert scale from 0 (agree very little) to 4 (agree very much)
- Item development used ISI-R items as templates, manipulated to focus on long-term, short-term, or unspecified time-spans, tolerance, and immediate (i.e., fear) or potential threats (i.e., anxiety)
- Four additional measures were included:
  - Anxiety Sensitivity Index
    - ASI; Reiss & McNally, 1985
  - Illness Attitudes Scale, Fear of Illness and Pain subscale
    - IAS; Kellner, 1986
  - Tampa Scale for Kinesiophobia
    - TSK; Kori et al., 1990
  - Pain Anxiety Symptoms Scale-20
    - PASS-20; McCracken & Dhingra, 2002
- Exploratory factor analyses (EFA) refined item inclusion and evaluated the factor structure, while canonical correlation assess validity

### Results

- Fear of illness was significantly greater than fear of injury,  $p < .01$ ,  $r^2 = .13$
- For illness and injury, participants were more fearful than anxious,  $p < .01$ ,  $r^2 = .22$ , and more intolerant than fearful,  $p < .01$ ,  $r^2 = .21$ , more concerned with unknown than short-term durations,  $p < .01$ ,  $r^2 = .58$ , and more concerned with long-term than unknown durations,  $p < .01$ ,  $r^2 = .38$
- EFA Principal Factors Analysis with promax rotation and strict item exclusion criteria (i.e., communalities  $< .40$ , factor loadings  $\leq .45$ , or cross-loadings  $\geq .35$ ) resulted in two measures, the 13-item Pathophobia Scale and the 12-item Traumatophobia Scale, each with 3 factors – Anxiety, Duration, & Intolerance
- The first canonical root supported convergent (Pathophobia & IAS) and discriminant (Pathophobia & TSK) validity,  $p < .01$ ,  $R_c = .70$ 
  - The second canonical was not significant,  $p > .05$ ,  $R_c = .12$ , but did imply convergent (Traumatophobia & TSK) and discriminant (Traumatophobia & IAS) validity
- Comparable correlations were found with the ASI-Fear of Somatic Sensations subscale (Pathophobia,  $r = .53$  & Traumatophobia,  $r = .50$ ), and the PASS (Pathophobia,  $r = .50$  & Traumatophobia,  $r = .53$ )

### Discussion

- Fear of physical harm seems to comprise several distinct components: (1) a differentiation between illness and injury, (2) differences in expected duration of harm and its consequences, and 3) a variation in tolerance for enduring illness or injury
- Participants were more concerned with being ill than injured, possibly because illnesses (e.g., the flu) are expected to be more comprehensively incapacitating than injuries (e.g., sprain)
- Participants were less worried than fearful or intolerant of being ill or injured, possibly because young and healthy participants find illness or injury inconvenient instead of permanently disabling
- Participants were least fearful of short periods of illness or injury, followed by unspecified durations, and then prolonged durations; heightened fear of prolonged illness or injury suggests an avenue for researching somatically-related chronic disorders (e.g., chronic pain, hypochondriasis)
- Future analyses could use confirmatory factor analysis with a similar sample of participants and thereafter extend examination to include samples of people with chronic and acute pain, chronic and acute illness, and hypochondriasis

Pathophobia Scale	Anxiety	Duration	Intolerance	<i>M</i>	<i>SD</i>
9. I get scared if I think I am coming down with an illness.	<b>0.84</b>	-0.10	0.06	0.63	0.81
2. I worry my health is deteriorating any time I am even slightly ill.	<b>0.69</b>	-0.06	-0.02	0.71	0.89
8. I become anxious upon discovering I have any illness.	<b>0.63</b>	0.06	0.12	1.12	0.98
6. I worry I may have a serious illness I don't know about yet.	<b>0.58</b>	0.26	-0.24	0.87	1.04
5. I get scared at the thought of having even a minor illness.	<b>0.51</b>	-0.01	0.25	0.68	0.86
4. I worry about becoming physically ill.	<b>0.50</b>	0.35	-0.03	1.13	1.04
7. I am frightened of having a long-term illness, even if it is minor.	-0.01	<b>0.75</b>	0.08	1.49	1.03
10. I worry that I might get a serious physical illness in the future.	0.15	<b>0.73</b>	-0.09	1.46	1.12
11. I can't stand the idea of being chronically ill.	-0.19	<b>0.65</b>	0.31	2.23	1.14
12. Thinking about having any serious illness makes me very anxious.	0.19	<b>0.55</b>	-0.07	1.21	1.15
13. I can't stand being ill, even for a short time.	0.11	-0.06	<b>0.80</b>	1.26	1.10
1. I can't stand being ill.	-0.11	-0.01	<b>0.74</b>	2.40	1.14
3. I can't stand the thought of being ill.	0.09	0.14	<b>0.67</b>	1.31	1.14
Total Scale				16.4	8.80

Primary factor loadings are in bold-type face

Cronbach's  $\alpha = .89$

Traumatophobia Scale	Anxiety	Duration	Intolerance	<i>M</i>	<i>SD</i>
6. I worry about any injury I get, even slight ones.	<b>0.76</b>	-0.20	0.26	0.64	0.76
12. I become anxious thinking about being even mildly injured.	<b>0.72</b>	0.03	0.04	0.58	0.73
4. I am scared of even small injuries that will heal fairly quickly.	<b>0.68</b>	-0.18	0.08	0.34	0.62
8. I worry that I might get seriously injured in the future.	<b>0.62</b>	0.41	-0.33	1.07	0.96
11. I get scared if I think I have been injured	<b>0.53</b>	0.17	0.14	0.79	0.83
2. I worry about being injured.	<b>0.52</b>	0.25	0.01	1.04	0.94
9. The thought of a serious, permanently debilitating injury is frightening.	-0.17	<b>0.85</b>	0.09	2.38	1.21
3. I can't stand the idea of being debilitatingly injured.	-0.04	<b>0.62</b>	0.10	2.28	1.20
10. The thought of enduring a major injury terrifies me, even if I know I will recover.	0.27	<b>0.48</b>	0.13	1.30	0.99
7. I can't stand being injured.	-0.11	0.21	<b>0.83</b>	1.30	1.09
5. I can't stand being injured, even if it doesn't take long to heal.	0.28	-0.10	<b>0.60</b>	0.92	0.94
1. I can't stand the thought of being injured.	0.24	0.13	<b>0.41</b>	1.46	1.06
Total Scale				14.10	7.80

Primary factor loadings are in bold-type face

Cronbach's  $\alpha = .89$