



Independent but not Interdependent Self-Construal Increases Risk for Development of Chronic Pain

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Introduction

- Self-construal is the way in which people identify themselves in relation to others¹
- Independent
 - Value their uniqueness from others
 - Focused on individual pursuits and self-actualization²
- Interdependent
 - Value social obligations and relationships
 - Focused on suppressing distinction from others and achieving collective goals²
- No prior longitudinal study on the effect of self-construal on the development of chronic pain
- Interdependence has a positive effect on several health-related measures including
 - Well-being^{3,4,5}
 - Memory⁶
 - Mental health^{7,8}
- Health messages are more effective when their goal orientation aligns with the self-construal of the consumer^{2,9}

Objective

• To determine whether self-construal can predict the development of chronic pain over a 9-10 year period

Hypothesis

• Having an interdependent (but not independent) self-construal will buffer against the development of chronic pain

Methods

- Open source dataset MIDUS was used to assess longitudinal effects of self-construal on the development of chronic pain over time
- MIDUS Wave 2 (2004) & 3 (2013)
- Subjects with no chronic pain at Wave 2 were used for the analysis
- Self-Construal Scale¹⁰
 - Independence
 - “Being able to take care of myself is a primary concern for me”
 - Interdependence
 - “My happiness depends on the happiness of those around me”
 - Scored on a scale of 1 (strongly agree) to 7 (strongly disagree)
- Chronic pain was self-reported as yes/no to “pain that persists beyond the time of normal healing and has lasted from anywhere from a few months to many years”
- Binary logistic regression performed to longitudinally assess the development of chronic pain in relation to both independent and interdependent self-construal

Distinctions Between Self-Construals

Independence	Interdependence
Individualist	Collectivist
Promotion-oriented	Prevention-oriented
Identity is in uniqueness from others	Identity is in relationships with others
Achievement, Autonomy, Distinction	Harmony & Fulfillment of Obligations

*an excessive degree of the behaviors associated with either self-construal can lead to negative health consequences

Results

Longitudinal Predictors of the Development of Chronic Pain			
Variables	OR	95% CI	p
BMI	1.002	[.977, 1.027]	.902
Depression	.960	[.885, 1.042]	.332
Anxiety	1.085	[.888, 1.326]	.425
Physical Health	.896	[.756, 1.062]	.206
Mental Health	.906	[.763, 1.075]	.258
# Chronic Conditions	.885	[.828, .947]	< .001
<i>Independence</i>	.877	[.780, .987]	.029
<i>Interdependence</i>	.984	[.883, 1.097]	.771

Table X. Binary logistic regression with independent and interdependent self-construal predicting the development of chronic pain between Waves 2 and 3 of the MIDUS (controlling for age, sex, education, marital status, and race).

- Self-construal predicted the development of chronic pain over a 9-10 year period in the MIDUS dataset --
- Independence was associated with an increased risk for developing chronic pain --
- Interdependence was *not* associated with an increased risk for developing chronic pain --
- Age, sex, education, marital status, and race were also controlled for --

Discussion

- Independent individuals may be more likely to develop chronic pain because they
 - Are less reliant on social support
 - Do not prioritize prevention-oriented information as much as they do promotion-oriented information
- Interdependent individuals may not be more likely to develop chronic pain because they
 - Are prevention-oriented, and humans avoid loss more than they seek gain¹¹
 - And more easily persuaded to engage in health behaviors that prevent chronic pain or other losses of health
 - Are more accepting of negative health information and may be more likely to adjust their habits accordingly¹²
 - Focus on others and spend time with interdependent individuals who empathize with their pain¹³



Implications

- Implications for public health organizations and health companies
- Independent subjects place a greater than usual priority on prevention information when interdependence is primed¹⁴
 - For example, a public health advertisement about the importance of avoiding nicotine usage to prevent chronic pain development may be better received by individuals with either self-construal if the ad emphasizes spending quality time with family and friends as a reason for preserving health

MIDUS Wave 2 Survey Demographics

Main Racial Origin	Total	% of Valid Responses	Age		
			Minimum	Maximum	Mean
White	4,473	90.6%	28	84	55.41
Black and/or African American	229	4.6%			
Native American or Eskimo	77	1.6%			
Asian	27	.5%			
Native Hawaiian or Pacific Islander	7	.1%			
Other	126	2.6%			
N=4,939 for Valid Responses, 24 responses were invalid					

Gender		
	Count	% of Total
Male	2,316	46.7%
Female	2,647	53.3%

Limitations

- The MIDUS survey demographics were narrow, and both self-construal and chronic pain have been shown to vary across different cultural contexts
 - Only US residents were included as participants (99.3% were US citizens)
 - Participants were predominantly White
- Only 6 of the 24 items from the Self-Construal Scale were used to measure self-construal

Future Directions

- Future studies should analyze this relationship in other populations and across different timelines, and utilize the full Self-Construal Scale

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