Lexi Barrett
abarre23@charlotte.edu
Public Policy Program
The University of North Carolina at Charlotte

Shift Happens:

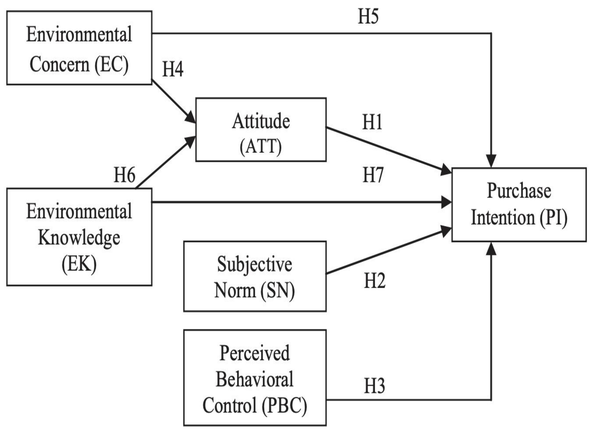
Consumers' Perceptions, Acceptance, and Valuation of Carbon Labeling in Energy

BACKGROUND:

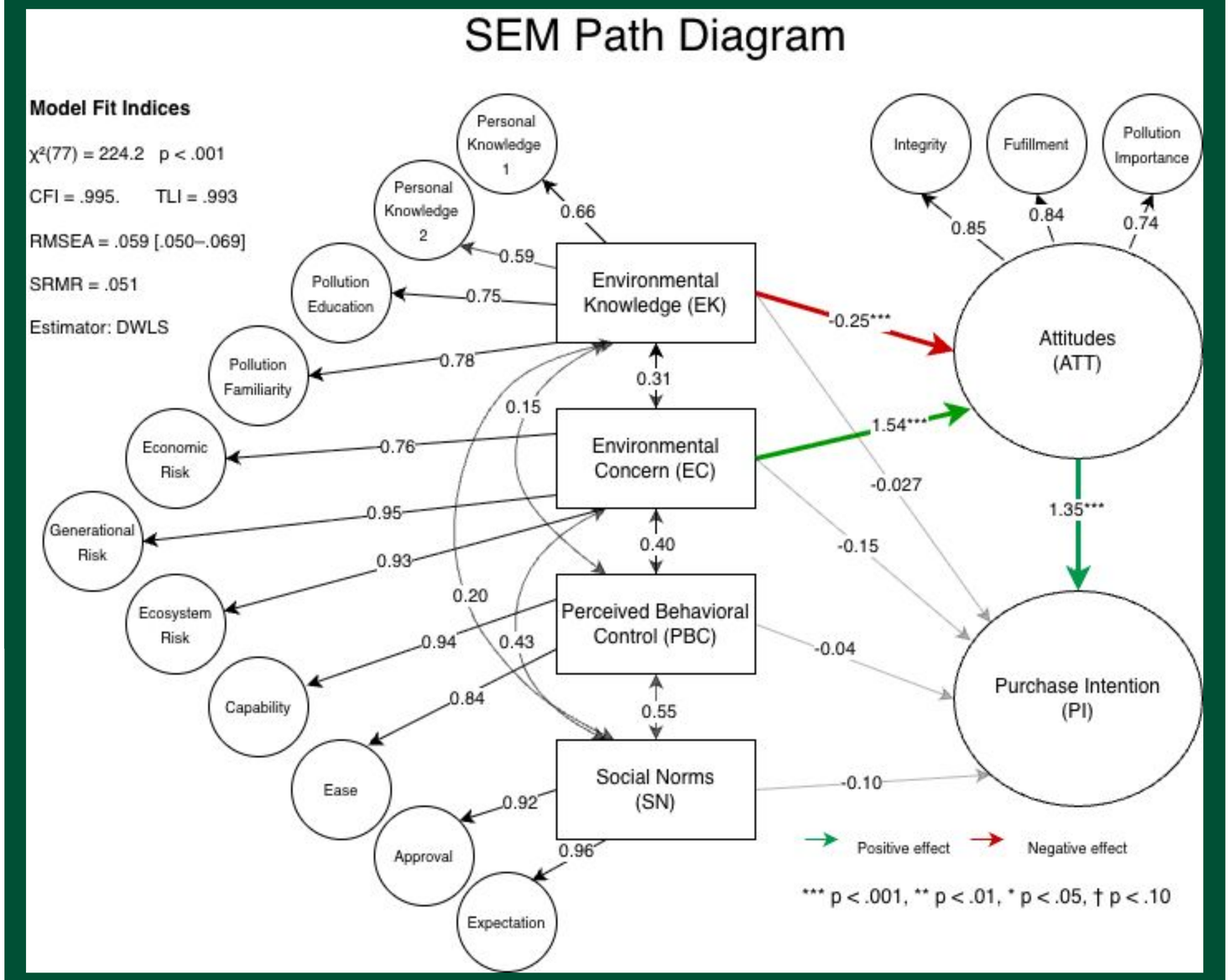
Electricity generation produces ~40% of global CO_2 emissions. This study examines U.S. consumers' perceptions of carbon labeling and their intention to adjust energy use based on pollution information.

Based on the Theory of Planned Behavior (Ajzen, 1991) and extended with environmental psychology (Yadav & Pathak, 2016), this model tests whether psychosocial predictors (Attitudes, Social Norms, Perceived Behavioral Control, Environmental Concern, and Environmental Knowledge) predict intention to shift energy use (Purchase Intention).

HYPOTHESES:



H1: ATT→PI
H2: SN→PI
H3: PBC→PI
H4: EC → ATT
H5: EC → PI
H6: EK →ATT
H7: EK →PI



Take a picture to download the working paper!

IRB Approved UNC Charlotte (ORPI)
Exempt per 45 CFR 46.104(d), Cat. 2
Study #IRB-25-0833 • 03-Apr-2025

QUICK FACTS:

Carbon intensity varies by season and energy mix.

Carbon labeling is a tool that displays the carbon intensity (g CO_2/kWh) of electricity to consumers.

METHODS:

Data (N=487): Self-administered survey through Cloud Research.

Measurement: 5-pt Likert scale

(UoA): Individual consumers

Analysis: Structural equation modeling (SEM)

KEY RESULTS:

Reliability, Convergent Validity & Internal Consistency

Construct	Composite Reliability	AVE	Cronbach α
Attitudes	0.81	0.66	0.79
PBC	0.84	0.80	0.84
Norms	0.90	0.88	0.90
EC	0.88	0.79	0.88
EK	0.79	0.49	0.70

CR ≥ .70; AVE ≥ .50; α ≥ .70

Attitudes Matter Most: Attitudes drive clean energy purchase intention.

Value–Action Gap: Environmental concern and knowledge influence attitudes, not action.

CHARLOTTE