

The Longitudinal Effect of ACT- Targeted Emotion Regulation Strategies on Anxiety Levels in Youth

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ACBS Student Scholarship

Emotion Regulation and Psychopathology

ER = The set of processes through which emotions are changed, modified, or managed^{1, 2}

Emotion dysregulation has been implicated across a variety of disorders:



Longitudinal Studies

Majority of ER studies were cross-sectional or experimental

Therefore, we don't know the direction of effects:



McLaughlin et al. (2011) found that ER difficulties predicted anxiety in youth, but not vice versa

ER Strategies in ACT

Mindfulness Training³

Leads to decreased anxiety

Acceptance⁴

Lack of acceptance is associated with anxiety

Committed action⁵

Difficulty has been associated with anxiety



Research Questions

- 1) Are the ER strategies targeted in ACT implicated in increases in anxiety over time?

Non-awareness

Nonacceptance

Inability to move toward goals

- 2) If so, does this differ based on types of anxiety symptoms?

Social anxiety

Separation anxiety

Physical anxiety

Sample



Parent study = Gene-Environment Mood Study (GEM) at the University of Denver and Rutgers University

Community sample of 312 youth recruited from local schools at the Colorado site

- 3rd, 6th, and 9th graders
- Age range: 8-16 years (mean = 11.68, SD = 2.3)
- 41% male, 59% female

Data collected every 3 months for 3 years

Measures

Outcome measure

Multidimensional Scale of Anxiety (MASC)

- Social, separation, and physical anxiety subscales
- Every 3 months

ER measures

Emotion Expression Scale for Children (EESC)

- Emotion awareness subscale (*"I often do not know how I feel"*)
- Baseline

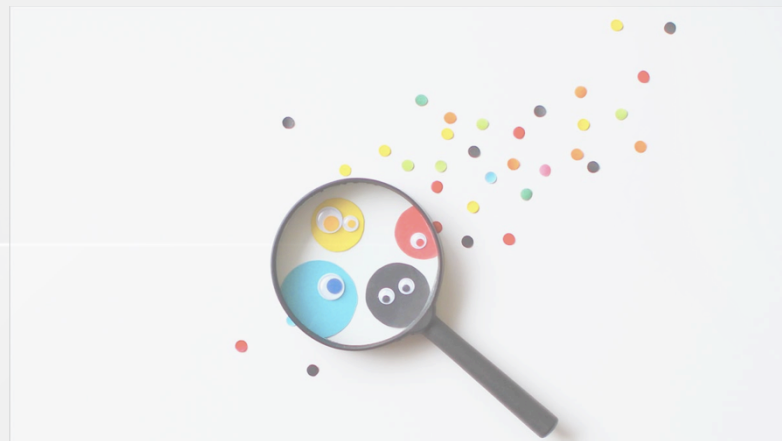
Difficulties with Emotion Regulation Scale (DERS) – Youth Adapted

- Nonacceptance subscale (*"When I'm upset, I feel bad for feeling that way"*)
- Goals subscale (*"When I'm upset, I have a hard time doing things"*)
- 18 months

Depression measure

Children's Depressive Inventory (CDI)

- Baseline and 18 months



Statistical Approach

Used **hierarchical linear modeling** (HLM 6) to most powerfully capture change over time (slope) and initial and endpoint anxiety levels (intercept)

Level 1

- MASC subscale scores

- Linear time term (centered around BL, 18, or 36 months)

Level 2

- ER measure (EESC, DERS nonacceptance, or DERS goals)

- Covariates (age, gender, initial depression and anxiety)

The background features a light blue gradient with several overlapping, semi-transparent circular patterns of varying shades of blue. A thin white horizontal line runs across the middle of the page, positioned just above the word 'Results'.

Results

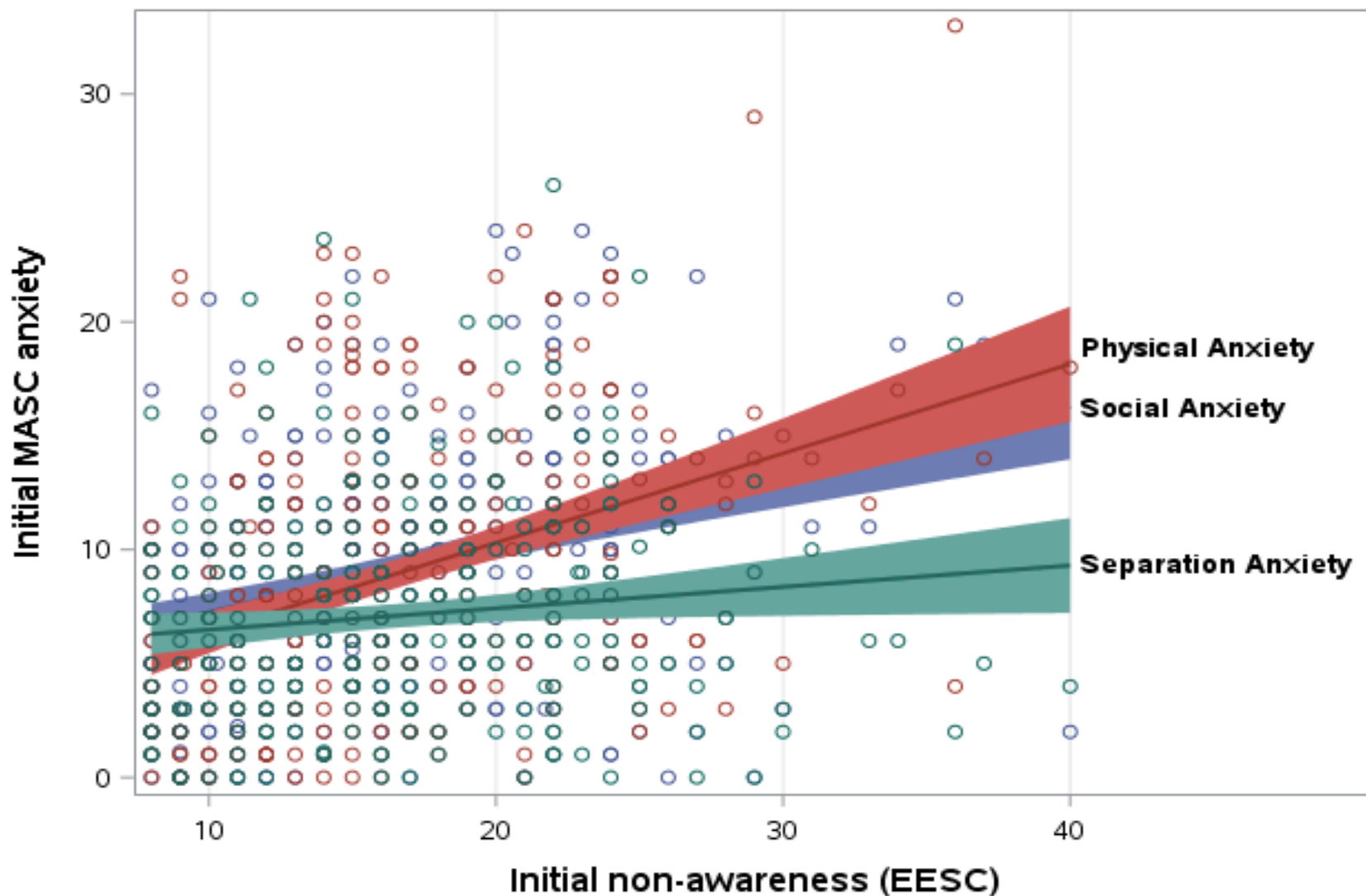
Demographics

All anxiety symptoms significantly decreased over the 3 year period

Older youth had lower levels of separation anxiety ($p < .001$)

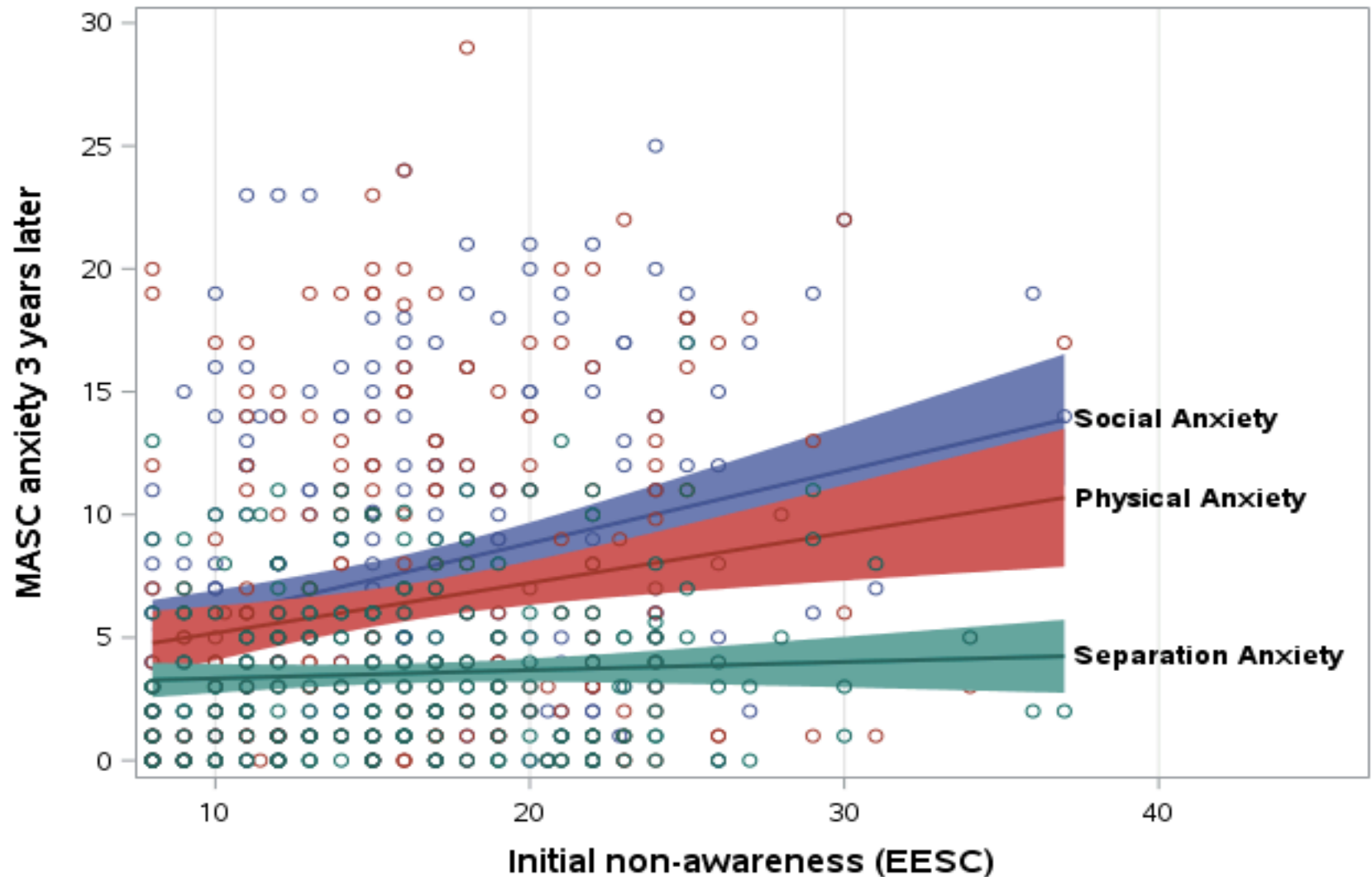
Females had higher levels of social ($p < .001$) and physical anxiety ($p = .02$)

Non-awareness predicting concurrent anxiety



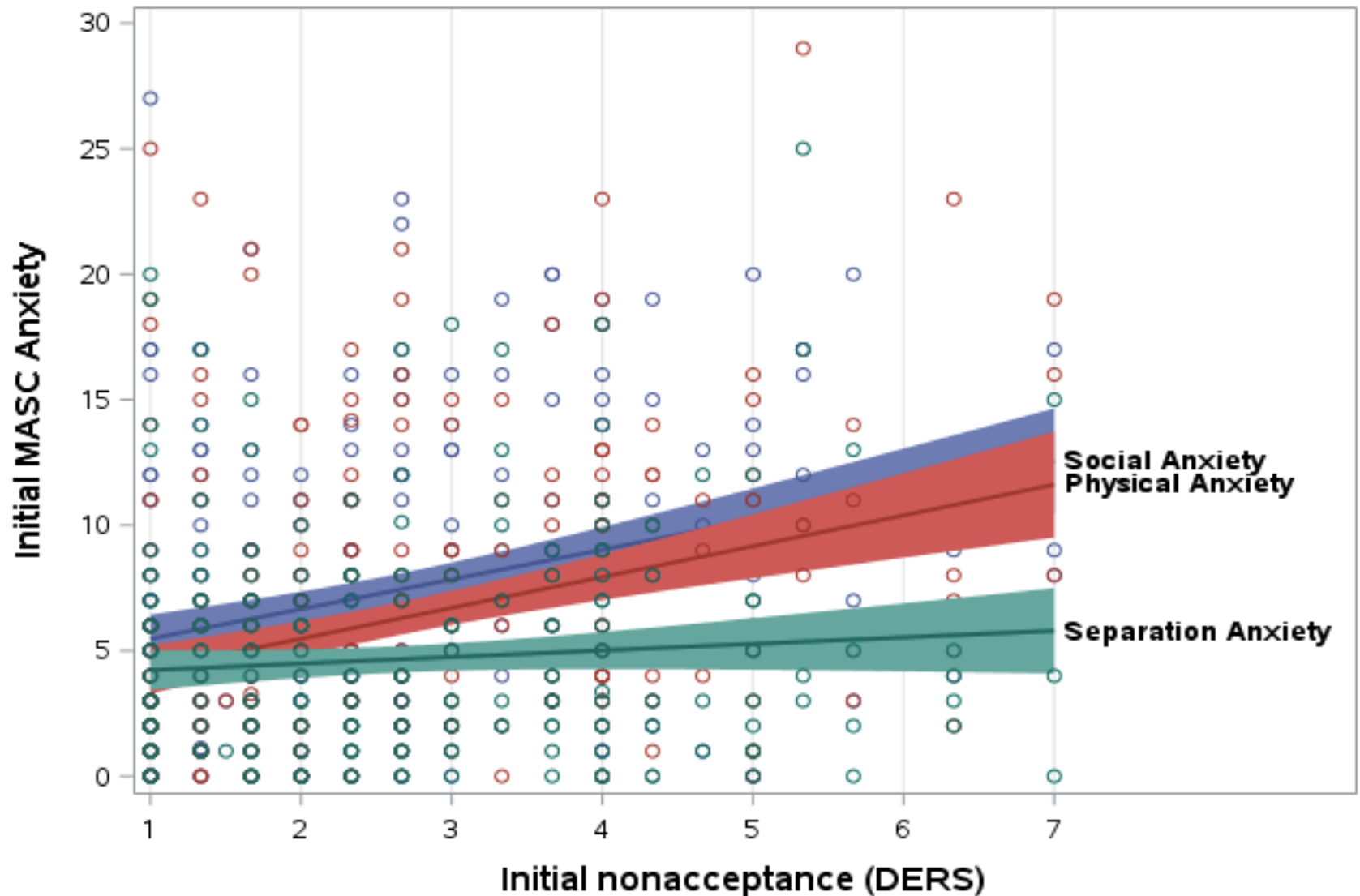
Concurrently predicted all anxiety symptoms at baseline, even when controlling for age, gender, and depression ($ps < .01$)

Non-awareness predicting anxiety 3 years later



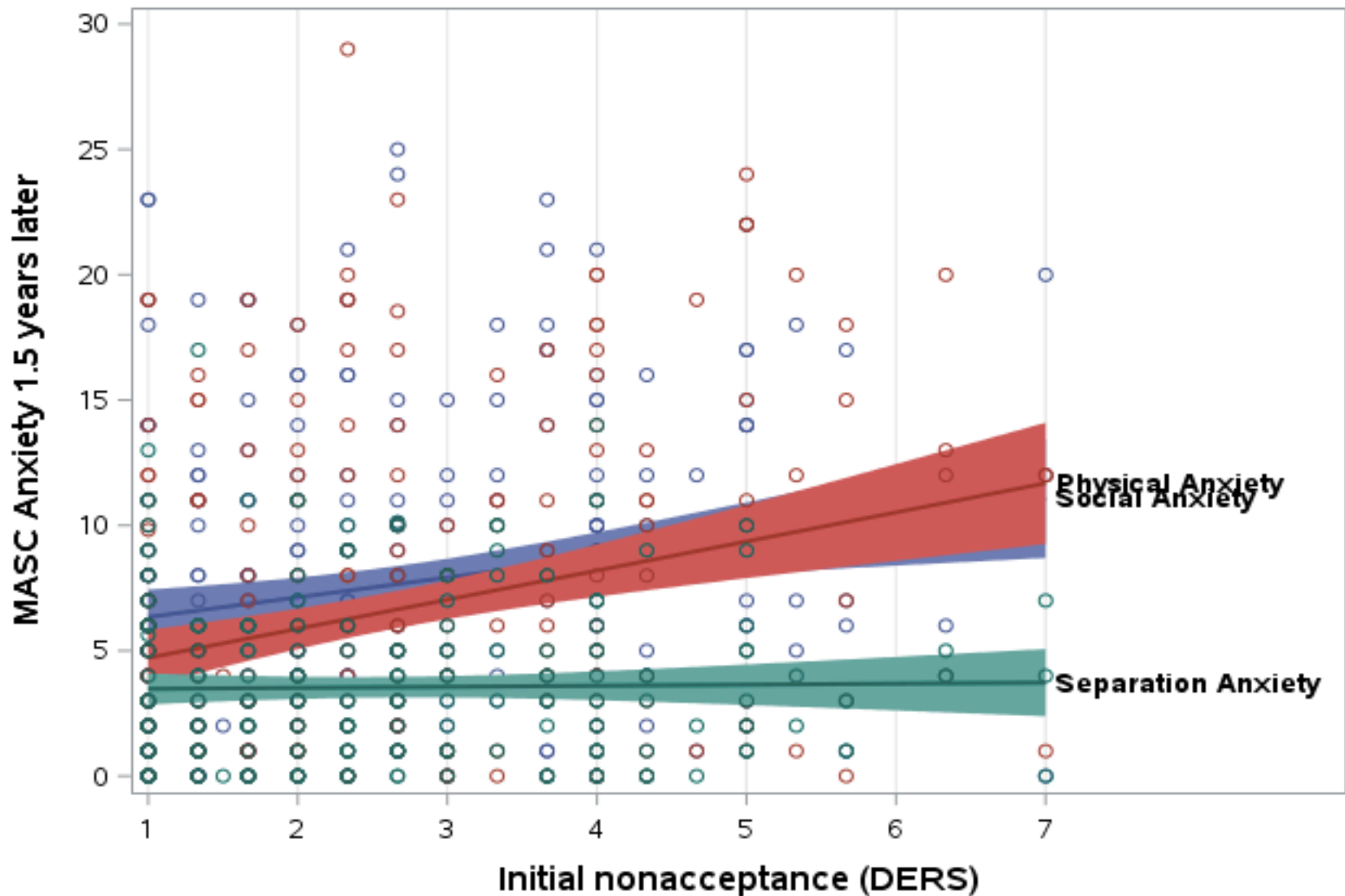
Longitudinally predicted 36-month social and physical anxiety symptoms ($ps < .001$) alone; this held for social anxiety ($p = .01$) with covariates

Nonacceptance predicting concurrent anxiety



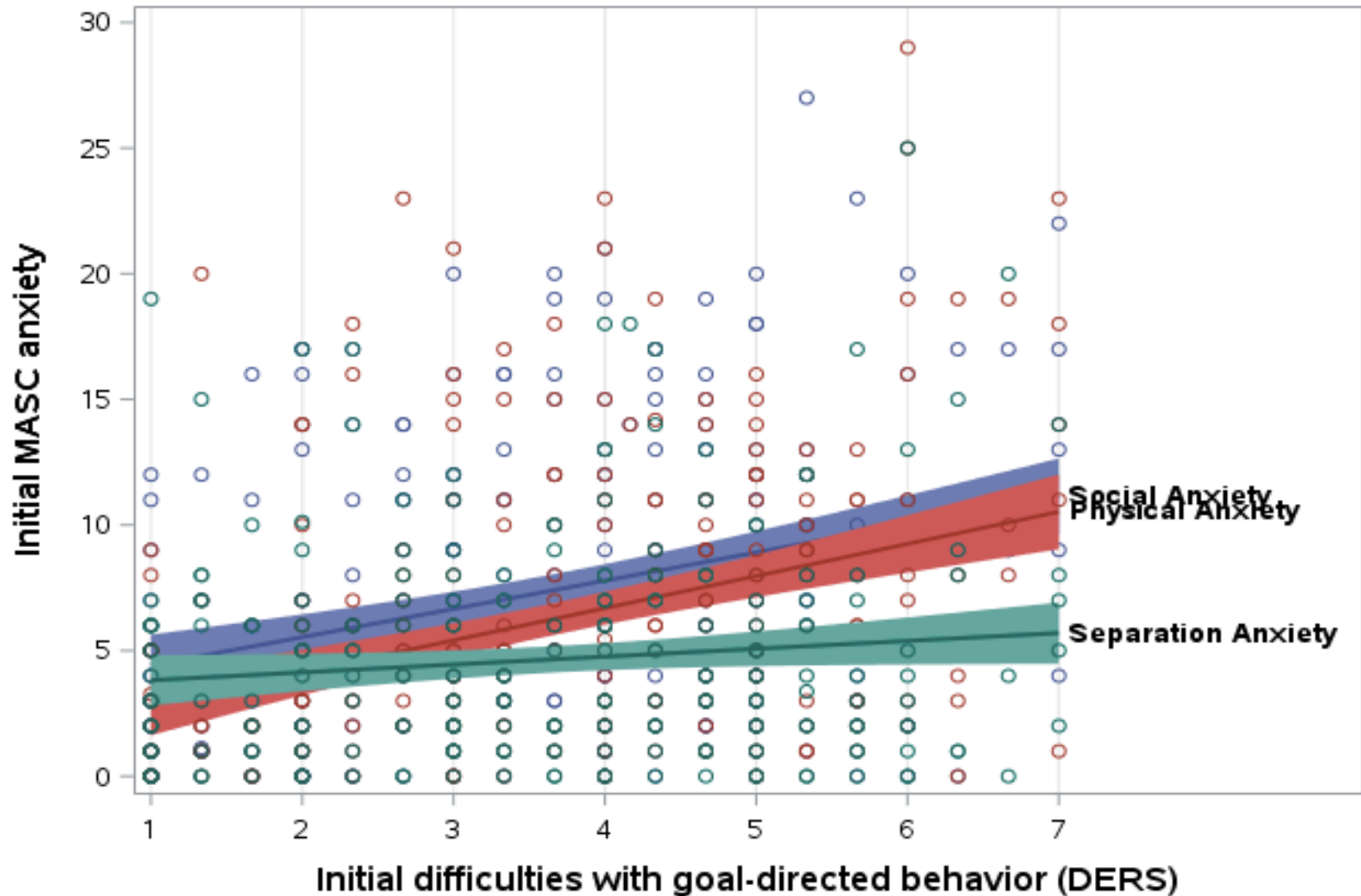
Concurrently predicted social and physical anxiety symptoms at 18 months, even when controlling for age, gender, and depression ($ps < .001$)

Nonacceptance predicting anxiety 1.5 years later



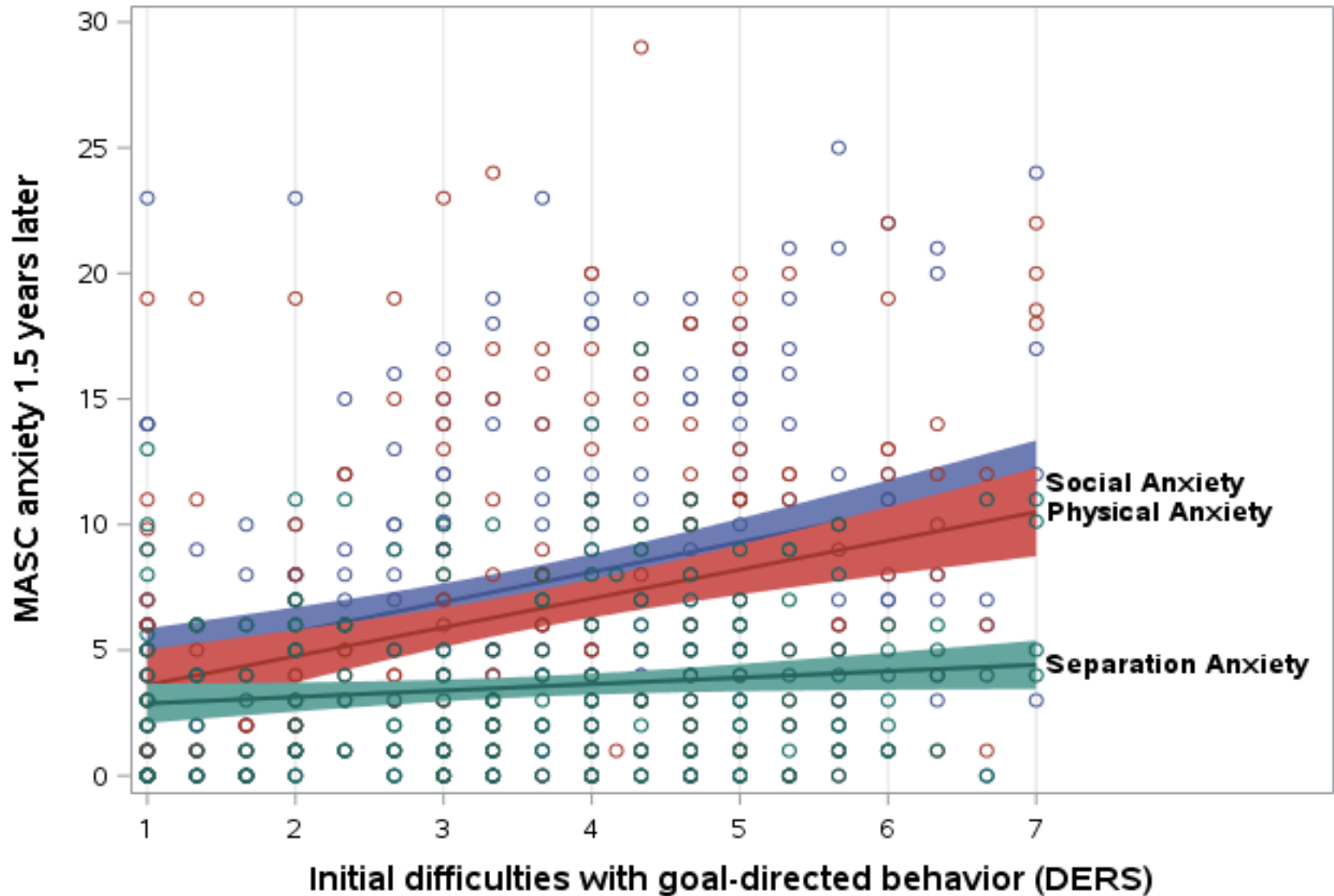
Longitudinally predicted 36-month social and physical anxiety symptoms ($p < .001$) alone

Goal-directed behavior predicting concurrent anxiety



Concurrently predicted social and physical anxiety symptoms at 18 months alone (p s < .001); predicted all anxiety symptoms when controlling for age, gender, and depression (p s < .04)

Goal-directed behavior predicting anxiety 1.5 years later



Longitudinally predicted all 36-month anxiety symptoms ($ps < .02$) alone; this held for social and separation anxiety ($ps = .03$) with covariates

Summary and Implications

Higher levels of ER difficulties prospectively predicted higher levels of anxiety symptoms up to 36 months

- Emotion dysregulation represents a **risk factor** for anxiety

Separation anxiety less affected than social/physical

- Important to examine symptoms separately

Emotion awareness was highly predictive

- Need awareness in order to regulate

Goal-directed behavior particularly robust

- More concrete
- Functional consequences
- Important to examine ER difficulties separately

Implications, cont.

Important that we tested an *absence* of adaptive strategies, rather than the *presence* of maladaptive strategies

Therefore, increasing awareness, acceptance, and committed action could serve as important **prevention** targets

Also lends indirect support for targeting these processes in **therapy** such as ACT

Limitations and Future Directions

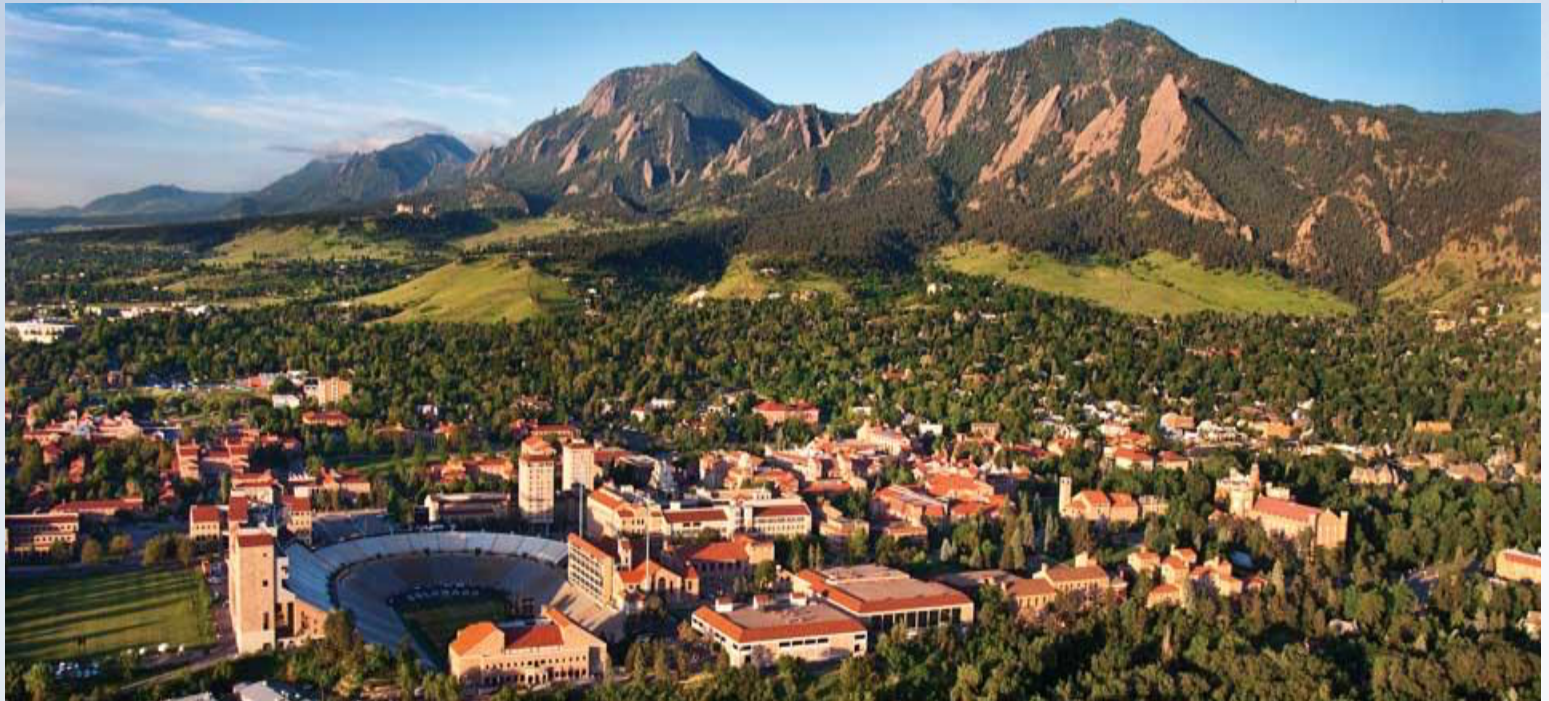
Test for bi-directional influence and stability over time

- Important to assess how *change* in ER maps on to changes in anxiety and vice versa

Examine in a clinical sample using broader measures

Assess other common ER strategies

Thank you!



Emotion Awareness

Concurrently predicted all anxiety symptoms at baseline, even when controlling for age, gender, and depression ($ps < .01$)

Longitudinally predicted 36-month social and physical anxiety symptoms ($ps < .001$) alone; this held for social anxiety ($p = .01$) with covariates

Physical anxiety declined more steeply for those higher in non-awareness ($p = .04$)

Nonacceptance

Concurrently predicted social and physical anxiety symptoms at 18 months, even when controlling for age, gender, and depression ($ps < .001$)

Longitudinally predicted 36-month social and physical anxiety symptoms ($ps < .001$) alone

Social anxiety declined more steeply for those higher in nonacceptance ($p = .02$)

Goal-directed behavior

Concurrently predicted social and physical anxiety symptoms at 18 months alone ($ps < .001$); predicted all anxiety symptoms when controlling for age, gender, and depression ($ps < .04$)

Longitudinally predicted all 36-month anxiety symptoms ($ps < .02$) alone; this held for social and separation anxiety ($ps = .03$) with covariates

Did not affect linear rate of change for any symptoms