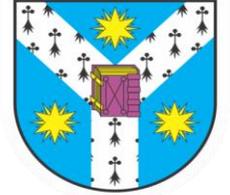


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A meta-analysis of the relations between achievement goals and internalizing symptoms: A pre-registered meta-analysis

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Introduction



- Achievement goals are generally defined as cognitive representations that guide one's behaviors to competence-related end states that individuals strive to either approach or avoid (Elliot & Thrash, 2002; Hulleman et al., 2010).

mastery-approach (MAP)

performance-approach (PAP)

performance-avoidance (PAV)

mastery-avoidance (MAV)

- guide the way people approach the achievement-related situations and how they cognitively, emotionally and behaviorally respond to these situations (Ames, 1992; Elliott & Dweck, 1988)
 - impact academic-related outcomes and motivation in various settings, such as academic or work
 - Are associated with achievement emotions and emotional experiences within the school

Huang, 2011; Lochbaum & Gottardy, 2015; Senko & Dawson, 2017

Introduction



- Depression and anxiety are among the most common mental health problems (Patel et al., 2016)
- largest contributions to disability during youth and into adulthood across different cultural contexts (Vos et al., 2020).

- Anxiety and depression have negative consequences, such as difficulties in work functioning, lower academic achievement and academic competence

Brumariu et al., 2022; Huang, 2015; Riglin et al., 2014

- decreased in MAP are related to lower levels of internalizing symptoms, PAP and PAV are related to higher levels of anxiety and depression
 - e.g., Madjar et al., 2021; Mairean & Diaconu-Gherasim, 2020; Mastrotheodoros et al., 2017



? how motivational achievement goals are related with the internalizing symptoms

Basic Components and Models of Achievement Goals

Dichotomous achievement goals models (e.g., Ames, 1992; Dweck, 1986; Elliot, 1999) distinguished between two types of goals, conceptualized as:

Mastery goals

- on developing the competence (self-referenced)
- mastery a task (task-referenced) in order to develop one's ability (reason)

Performance goals

- focused on demonstrating competence relative to others (appearance standards)
- outperform normative standards in order to demonstrate the ability (reason)

Basic Components and Models of Achievement Goals

The trichotomous model (Elliot, 1997; Middleton & Midgley, 1997; Skaalvik, 1997)
includes MAP and PAP

+

PAV

focused on avoidance to display a low competence relative to others,
conceptualized as aiming

to avoid demonstrating low
competence relative to others
(normative)

to avoid appearing incompetent (appearance)

Basic Components and Models of Achievement Goals

A 2 x 2 achievement goal model (Elliot, 1999; Elliot & McGregor, 2001)
applied the avoidance component to mastery goals

+

MAV

focusing either on preventing or avoiding misunderstandings

or avoiding falling to learn a of task

A 3 x 2 model (Elliot et al. 2011) the mastery goals were split according to the standards for competence

- two MAP (to approach intrapersonal competence or task-based competence)
- two MAV (to avoid intrapersonal incompetence or task-based incompetence)
- Other-based goals (other-approach and other-avoidance) (similar with PAP and PAV)

Basic Components and Models of Achievement Goals

MAP

- interest and curiosity (e.g., mastery orientation, Midgley et al., 1998; task orientation, Nicholls, 1984)
- potential attainment (e.g., mastery-approach, Elliot & McGregor, 2001)

MAV

- goals mirror MAP (e.g., mastery-avoidance, Elliot & Murayama, 2008) + fear about negative outcomes (i.e., mastery-avoidance, Elliot & McGregor, 2001).

PAP:

- appearance component: ego orientation (Nicholls et al., 1985) or ability validation (Grant & Dweck, 2003)
- normative component: performance-approach (Elliot, 1999), normative goals (Sideridis et al., 2009)
- evaluative component: normative ability validation (Grant & Dweck, 2003) or ego orientation (Nicholls, 1984)

PAV

- mirror the basic components of PAP + to fear about possible outcomes (performance-avoidance, Elliot & Church, 1997)

see Elliot & Hulleman, 2017; Hulleman et al., 2010 for more details

Achievement Goals and Internalizing Symptoms

- **The goal-orientation model of depression (Dykman, 1998):**
 - achievement goals - specific cognitive framework where the events are appraised or interpreted, and which have implications for people's mental health (i.e., depression).
 - Focus on MAP - oriented to growth, learning, and improvement
 - view themselves and situations more positive experienced lower levels of depressive symptoms
 - Focused on PAP - challenging or difficult situations are evaluated as testing the ability
 - more vulnerable to depression and less resilient to failure.

Achievement Goals and Internalizing Symptoms

- **The motivational systems theory** (Ford, 1992): emotions may influence the achievement goals adoption
 - provide clues about situations or its meanings
- **The adjustment erosion hypothesis** (Moilanen, et al., 2010)
 - anxiety and depression may increase individuals' vulnerability to other areas such as motivation
 - due to eroding the cognitive functioning, interferences with attentional focus and task participation.
 - reduce individuals' motivation and goals direction attention and might distract them from their work.

Empirical evidence

- MAP related with decrease in symptoms of depression (e.g., Madjar et al., 2021; Mairean & Diaconu-Gherasim, 2020) and anxiety (Ariani, 2017; Wei, 2018)
- PAP & PAV positively linked to anxiety (Madjar et al., 2021) and depression (e.g., Ariani, 2017; Mastrotheodoros et al., 2017)
- non-significant relations of MAP, PAP, PAV with anxiety (Duchesne et al., 2014; Madjar et al., 2021) and depression (Duchesne et al., 2014; Madjar et al., 2021).
 - Very few studies investigated the impact of MAV and mixed findings were reported (e.g., Sideridis, 2008; Liu et al., 2019).

Goals

- strength of the relations between the different types of achievement goals (i.e., MAP, MAV, PAP and PAV) and internalizing symptoms (i.e., depressive symptoms, anxiety and broader internalizing).
- Whether the relations are moderated by.....

Whether the relations are moderated by.....

- **theoretical model** of achievement goals
- **conceptual differences** at the level of components of each kind of goal
- **measurement of the achievement goals** (e.g., PALS, ASQ, TESQ)
- **type of setting:** general or subject-specific level

Whether the relations are moderated by.....

- **level of functional impairment of** anxiety and depression symptoms or disorders or both
- **types of anxiety** (e.g., global, trait, panic, separation anxiety)
- **types of depression** (e.g., global, sadness, major depressive disorder)

- **Demographic factors** (e.g., educational level, sample of participants, geographical region, age, gender)
- **type of research design utilized** (cross-sectional vs. longitudinal, type of publication)
 - direction of relation between achievement goals and internalizing symptoms



- Protocol was pre-registered in PROSPERO International Prospective Register of Systematic Reviews (protocol number CRD42022298463)
- The systematic review was conducted according to the PRISMA 2020 (Preferred Reporting Items for Systematic reviews and Meta-Analyses; Page et al., 2021) guidelines



Literature Search

- The literature search conducted in December 2022
- 6 electronic databases: Web of Science, PsycINFO, PubMed, ERIC, Academic Search Premier (EBSCO), and ProQuest.
- publication period: 1980 – 2022.
- search strategy used combination of keywords:
 - ("achievement goal" OR "goal orientation" OR "mastery goal" OR derivate (e.g., “task goal“) OR "mastery avoidance goal" OR derivate (e.g., "development-avoidance goal") OR "performance goal" OR derivate (e.g., "ego orientation“) OR "performance avoidance goal" OR derivate (e.g., "self-defeating ego orientation")
 - AND
 - (internalizing OR derivate (e.g., "internalizing disorders“) OR depression OR derivate (e.g., "depressive disorders" OR “sadness”) OR anxiety OR derivate (e.g., "generalized anxiety" OR "anxiety problems" OR worries).

Study selection. Inclusion & Exclusion criteria

- ratings of achievement goals (MAP, MAV, PAP and PAV) and internalizing problems (depressive symptoms, anxiety symptoms or global internalizing symptoms)
- statistically relevant information available for the relations between achievement goals and internalizing problems (e.g., correlation, sample size) allowing the computation of effect size statistics.
- theoretical papers, systematic reviews or meta-analyses, and qualitative studies;
- studies that measured achievement goals (or goal structures) at the group level, and studies that induced achievement goals situationally;
- studies measuring situational anxiety (e.g., test anxiety, sport anxiety, academic anxiety, fear of failure, achievement-related emotions);
- studies for which no full texts were accessible or sent upon request



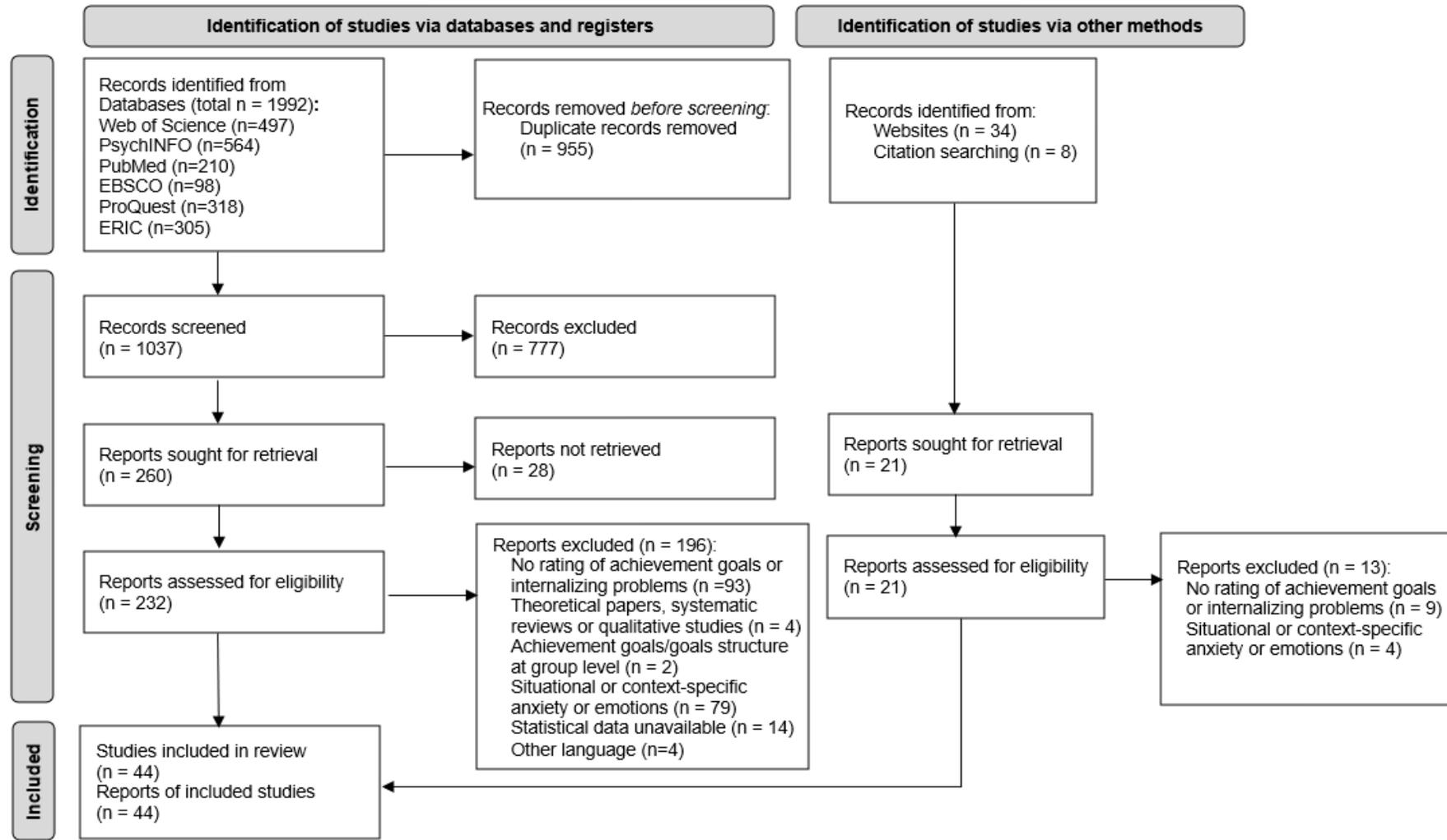


Figure 1. The PRISMA 2020 flow diagram

Coding



1.study characteristics

1. *publication year, publication type* (e.g., peer review or non-peer review study)
2. *study design* (cross-sectional, longitudinal, other)
3. *sample description* (e.g., N, age, gender, education level, family status, country)

2. conceptualization of achievement goals

1. *theoretical model* (2-factor, 3-factors, 2 x 2 factors, 3 x 2 factors model),
2. *type of achievement goals* (MAP, MAV, PAP, PAV)
3. *type of each goals* (e.g., mastery-approach goals, mastery-approach goal, learning goal orientation)

3.conceptualization of internalizing symptoms

1. *types of anxiety/ depression* (symptoms or disorders),
2. *forms of anxiety* (e.g., global anxiety, generalized anxiety, panic, social anxiety, worry)
3. *forms of depression* (e.g., global depression, persistent depressive disorder)

4. achievement goal scales (e.g., PALS, AGQ, TEOSQ),

5. type of setting for achievement goals: general vs. specific

6. type of informant: self-report, parent, coach report

7.correlation coefficients: AG & internalizing problems

8. direction of the relation

Results

The effect sizes were computed based on

- 68 samples exploring the associations between MAP and internalizing symptoms
- 8 samples of the association of MAV with anxiety and depressive symptoms,
- 70 samples of the associations of PAV with internalizing symptoms
- 44 samples of the associations between PAV and internalizing symptoms.



Associations between Achievement Goals and Anxiety and Depressive Symptoms

Results of the meta-analysis between achievement goals and anxiety symptoms

| | k | r | 95% CI | Q within |
|------------------------------|----|--------|--------------|-----------|
| Mastery-approach | 33 | -.16** | -.25 to -.06 | 944.99*** |
| Mastery-avoidance | 4 | .05 | -.05 to .16 | 20.68 |
| Performance-approach | 37 | .15*** | .11 to .19 | 189.40*** |
| Performance-avoidance | 21 | .23*** | .19 to .27 | 69.12*** |

Associations between Achievement Goals and Anxiety and Depressive Symptoms

Results of the meta-analysis between achievement goals and depressive symptoms

| | k | r | 95% CI | Q within |
|-----------------------|----|---------|--------------|-----------|
| Mastery-approach | 35 | -.16*** | -.20 to -.12 | 214.43*** |
| Mastery-avoidance | 4 | .13 | -.05 to .32 | 113.13*** |
| Performance-approach | 33 | .03 | -.00 to .07 | 193.08*** |
| Performance-avoidance | 23 | .13*** | .07 to .18 | 167.85*** |

Categorical moderators for the associations between AG and Anxiety

| Mastery-approach goals | <i>k</i> | <i>r</i> | 95% CI | <i>Q</i> within | <i>Q</i> between |
|---|----------|----------|--------------|-----------------|------------------|
| Achievement goal theoretical model | | | | | |
| Two factors | 8 | -.09 | -.30 to .11 | 16.01* | 50.13*** |
| Three factors | 18 | -.23** | -.35 to -.09 | 874.02*** | |
| 2x2 factors | 6 | -.03 | -.27 to .20 | 4.83 | |
| Achievement goal conceptualization | | | | | |
| Mastery goals/orientation | 15 | -.19* | -.34 to -.03 | 855.23*** | 54.00*** |
| Mastery-approach goal | 4 | -.04 | -.33 to .24 | 3.07 | |
| Task goal orientation | 4 | -.13 | -.42 to .17 | 2.35 | |
| Learning goal orientation | 5 | -.07 | -.33 to .19 | 11.81* | |
| Development-approach goal | 5 | -.28* | -.51 to -.01 | 18.52** | |
| Forms of anxiety symptoms | | | | | |
| global anxiety | 20 | -.17* | -.30 to -.03 | 859.38*** | 10.85* |
| social anxiety | 9 | -.20 | -.38 to .00 | 71.29*** | |
| specific anxiety/phobia | 1 | -.01 | -.56 to .54 | 0 | |
| Worry | 1 | .01 | -.53 to .54 | 0 | |
| Achievement goal scale | | | | | |
| PALS | 10 | -.07 | -.27 to .13 | 37.63*** | 30.99*** |
| AGQ | 4 | -.03 | -.33 to .28 | 4.19 | |
| AGQ-R | 1 | -.04 | -.58 to .53 | 0 | |
| Nicholls scale | 3 | -.10 | -.45 to .27 | 0.54 | |
| Others | 15 | -.27** | -.42 to -.11 | 871.62*** | |

Categorical moderators for the associations between AG and Anxiety

| Performance-approach | <i>k</i> | <i>r</i> | 95% CI | <i>Q</i> within | <i>Q</i> between |
|---|----------|----------|--------|-----------------|------------------|
| Achievement goal theoretical model | | | | | |
| Two factors | 10 | | .11** | .05 to .18 | 84.46*** |
| Three factors | 20 | | .20*** | .14 to .25 | 43.08** |
| 2x2 factors | 7 | | .06 | -.01 to .14 | 9.93 |
| Achievement goal conceptualization | | | | | |
| Performance goals | 2 | | .00 | -.09 to .20 | 1.67 |
| Performance-approach goal | 20 | | .10*** | .06 to .14 | 39.73** |
| Ego goal orientation | 3 | | .08 | -.04 to .21 | 4.27 |
| Ability goals | 1 | | .15 | -.02 to .31 | 0 |
| Prove goal orientation | 3 | | .25*** | .32 to .48 | 1.89 |
| Demonstration-approach goal | 6 | | .41*** | -.01 to .16 | 23.86*** |
| Forms of anxiety symptoms | | | | | |
| global anxiety | 23 | | .12*** | .07 to .17 | 75.66*** |
| social anxiety | 10 | | .25*** | .17 to .32 | 103.44*** |
| specific anxiety/phobia | 1 | | .09 | -.19 to .36 | 0 |
| Worry | 1 | | .17 | -.06 to .38 | 0 |
| Achievement goal scale | | | | | |
| PALS | 11 | | .15*** | .07 to .23 | 3.22 |
| AGQ | 5 | | .09 | -.01 to .20 | 12.20* |
| AGQ-R | 1 | | .03 | -.19 to .24 | 0 |
| Nicholls scale | 3 | | .08 | -.07 to .25 | 4.27 |
| Others | 17 | | .18*** | .12 to .24 | 149.61*** |

Categorical moderators for the associations between AG and Anxiety

| Performance-avoidance | <i>k</i> | <i>r</i> | 95% CI | <i>Q</i> within | <i>Q</i> between |
|--|----------|----------|-------------|-----------------|------------------|
| Achievement goal theoretical model | | | | | |
| Three factors | 15 | .26*** | .22 to .30 | 39.71** | 26.59*** |
| 2x2 factors | 6 | .15*** | .09 to .21 | 2.81 | |
| Achievement goal scale | | | | | |
| PALS | 11 | .22*** | .17 to .28 | 16.18 | 25.34*** |
| AGQ | 4 | .19*** | .10 to .27 | 12.76* | |
| AGQ-R | 1 | .13 | -.02 to .27 | 0 | |
| Others | 5 | .29*** | .21 to .36 | 14.83* | |
| Type of setting for achievement goals | | | | | |
| General | 1 | .35*** | .22 to .46 | 0 | 9.61** |
| Specific | 20 | .22*** | .18 to .26 | 59.59*** | |
| Global achievement | 15 | .19*** | .15 to .22 | 27.82* | |
| Math achievement | 2 | .26*** | .14 to .38 | .12 | |
| Sport | 1 | .34*** | .20 to .46 | 0 | |
| Work context | 1 | .39*** | .27 to .49 | 0 | |
| Others | 1 | .11 | -.09 to .30 | | |

Categorical moderators for the associations between AG and depression

| Mastery-approach | <i>k</i> | <i>r</i> | 95% CI | <i>Q</i> within | <i>Q</i> between |
|---|----------|----------|--------------|-----------------|------------------|
| Achievement goal theoretical model | | | | | |
| Two factors | 8 | -.09* | -.18 to .00 | 22.28** | 42.60*** |
| Three factors | 20 | -.19*** | -.24 to -.13 | 131.75*** | |
| 2x2 factors | 7 | -.17** | -.25 to -.08 | 17.78** | |
| Achievement goal conceptualization | | | | | |
| Mastery goals/orientation | 19 | -.12*** | -.17 to -.06 | 124.70*** | 52.18*** |
| Mastery-approach goal | 7 | -.16*** | -.24 to -.08 | 18.29** | |
| Task goal orientation | 5 | -.20** | -.31 to -.08 | 7.30 | |
| Development-approach goal | 4 | -.35*** | -.45 to -.23 | 11.94** | |
| Achievement goal scale | | | | | |
| PALS | 14 | -.18*** | -.25 to -.11 | 32.03** | 39.04*** |
| AGQ | 3 | -.21** | -.34 to -.06 | 11.65** | |
| AGQ-R | 2 | -.16 | -.32 to .00 | 2.11 | |
| Nicholls scale | 4 | -.07 | -.21 to .06 | 12.472** | |
| Others | 12 | -.15*** | -.23 to -.08 | 117.11*** | |

Categorical moderators for the associations between AG and depression

| Performance-approach | <i>k</i> | <i>r</i> | 95% CI | <i>Q</i> within | <i>Q</i> between |
|---|----------|----------|-------------|-----------------|------------------|
| Achievement goal theoretical model | | | | | |
| Two factors | 9 | .11** | .03 to .18 | 50.43*** | 15.82*** |
| Three factors | 17 | .02 | -.03 to .08 | 105.05*** | |
| 2x2 factors | 7 | -.01 | -.09 to .06 | 21.77** | |
| Achievement goal conceptualization | | | | | |
| Performance goals | 2 | -.00 | -.12 to .11 | 1.94 | 81.910*** |
| Performance-approach goal | 23 | -.00 | -.04 to .03 | 89.92*** | |
| Ego goal orientation | 4 | .10 | -.01 to .22 | 3.74 | |
| Demonstration-approach goal | 2 | .46*** | .33 to .57 | 4.96* | |
| Achievement goal scale | | | | | |
| PALS | 12 | -.01 | -.08 to .05 | 39.97*** | 44.72*** |
| AGQ | 3 | -.00 | -.10 to .09 | 1.80 | |
| AGQ-R | 2 | -.07 | 0.20 to .05 | 2.02 | |
| Nicholls scale | 4 | .09 | -.01 to .21 | 4.78 | |
| Others | 11 | .10** | .04 to .17 | 99.77*** | |

Categorical moderators for the associations between AG and depression

| Performance-avoidance | <i>k</i> | <i>r</i> | 95% CI | <i>Q</i> within | <i>Q</i> between |
|--|----------|----------|-------------|-----------------|------------------|
| Achievement goal conceptualization | | | | | |
| Performance-avoidance goal | 22 | .14*** | .08 to .19 | 151.65*** | 16.20*** |
| Other-avoidance goal | 1 | -.26 | -.50 to .02 | 0 | |
| Achievement goal scale | | | | | |
| PALS | 14 | .09* | .02 to .16 | 83.11*** | 65.32*** |
| AGQ | 3 | .15* | .01 to .28 | 13.02** | |
| AGQ-R | 1 | .04 | -.19 to .26 | 0 | |
| Others | 5 | .21*** | .11 to .31 | 6.38 | |
| Type of setting for achievement goals | | | | | |
| General | 1 | .27* | .03 to .47 | 0 | 20.86*** |
| Specific | 22 | .12*** | .06 to .17 | 146.98*** | |
| Global achievement | 18 | .12*** | .06 to .18 | 139.69*** | |
| Math achievement | 3 | .10 | -.05 to .25 | 4.13 | |
| Sport | 1 | .08 | -.20 to .34 | 0 | |

Categorical moderators for the associations between AG and Anxiety

| Mastery-approach | k | r | 95% CI | Q within | Q between |
|------------------------------|----|--------|--------------|-----------|-----------|
| Type of publication | | | | | |
| Peer-review journal articles | 25 | -.19** | -.30 to -.08 | 889.85*** | 25.07*** |
| Non-peer review studies | 8 | -.05 | -.25 to .15 | 30.07*** | |
| Direction of relation | | | | | |
| goals-anxiety | 2 | -.15 | -.50 to .24 | 0.41 | 8.06* |
| anxiety-goals | 2 | -.02 | -.40 to .36 | 0.82 | |

| Performance-approach | k | r | 95% CI | Q within | Q between |
|-------------------------|----|--------|-------------|-----------|-----------|
| Type of design | | | | | |
| cross-sectional | 33 | .14*** | .10 to .19 | 177.97*** | 10.39** |
| Longitudinal | 3 | .15* | .02 to .27 | 1.02 | |
| Others | 1 | .21 | -.01 to .41 | 0 | |
| Cultural context | | | | | |
| Western | 34 | .16*** | .12 to .20 | 174.12*** | 15.27*** |
| Eastern | 3 | .03 | -.10 to .16 | 0.00 | |

| Performance-avoidance | k | r | 95% CI | Q within | Q between |
|-------------------------------|----|--------|------------|----------|-----------|
| Type of design | | | | | |
| cross-sectional | 16 | .21*** | .17 to .26 | 39.29** | 14.88** |
| Longitudinal | 4 | .24*** | .16 to .32 | 14.94** | |
| Others | 1 | .35*** | .18 to .49 | 0 | |
| Direction of relation | | | | | |
| goals-anxiety | 2 | .29*** | .17 to .40 | 10.73** | 7.99* |
| anxiety-goals | 2 | .18** | .05 to .30 | 0.16 | |
| Participants education | | | | | |
| middle school | 7 | .20*** | .13 to .27 | 8.14 | 12.44** |
| high-school | 7 | .25*** | .17 to .33 | 17.95** | |
| College | 4 | .22*** | .12 to .31 | 19.81*** | |

Categorical moderators for the associations between AG and depression

| Mastery-approach | k | r | 95% CI | Q within | Q between |
|-------------------------------|----|---------|--------------|-----------|-----------|
| Type of design | | | | | |
| cross-sectional | 32 | -.16*** | -.20 to -.11 | 206.59*** | 7.30** |
| Longitudinal | 3 | -.22** | -.35 to -.08 | 0.53 | |
| Participants education | | | | | |
| middle school | 12 | -.12** | -.19 to -.05 | 96.46*** | 30.67*** |
| high-school | 8 | -.11* | -.20 to -.01 | 20.74** | |
| College | 8 | -.24*** | -.33 to -.16 | 56.25*** | |

| Performance-approach | k | r | 95% CI | Q within | Q between |
|-------------------------|----|------|-------------|-----------|-----------|
| Type of design | | | | | |
| cross-sectional | 30 | .04* | .01 to .08 | 169.29*** | 8.44** |
| Longitudinal | 3 | -.05 | -.17 to .07 | 15.35*** | |
| Cultural context | | | | | |
| Western | 29 | .05* | .01 to .10 | 161.89*** | 6.68* |
| Eastern | 4 | -.07 | -.18 to .03 | 24.49*** | |
| Sample category | | | | | |
| school students | 23 | .01 | -.03 to .06 | 94.44*** | 15.95*** |
| college students | 6 | .06 | -.03 to .15 | 57.07*** | |

| Performance-avoidance | k | r | 95% CI | Q within | Q between |
|-------------------------------|----|--------|-------------|-----------|-----------|
| Type of publication | | | | | |
| Peer-review journal articles | 17 | .12*** | .06 to .19 | 144.00*** | 6.67* |
| Non-peer review studies | 6 | .13* | .00 to .25 | 17.17** | |
| Participants education | | | | | |
| middle school | 8 | .12* | .02 to .22 | 52.17*** | 13.69** |
| high-school | 8 | .14** | .04 to .24 | 63.19*** | |
| College | 3 | .14 | -.00 to .29 | 13.02** | |

Moderating role of age and gender

| | Anxiety | | Depression | |
|------------------------------|----------------|----------|----------------|----------|
| | point estimate | <i>p</i> | point estimate | <i>P</i> |
| Mastery-approach | | | | |
| % male gender | | | .002 | .04 |
| Mastery-avoidance | | | | |
| Age | | | -.64 | <.001 |
| Performance-approach | | | | |
| Age | .01 | 0.008 | | |
| % male gender | | | .003 | .005 |
| Performance-avoidance | | | | |
| Age | .008 | <.001 | .01 | <.001 |

Discussion

- Our results advance the literature indicating that the way people approach the achievement-related situations might differently impact their emotional responses
- Relations among MAP, PAP, PAV with anxiety and depression were stronger in studies in which the 2-factor or 3-factor models were used.



Discussion

- Definitions of basic components of goals
 - MAP: self-referenced components vs task-referenced basic component.
 - e.g., development-approach goals/ task goal orientation vs. mastery goals/orientation/ mastery-approach goals
 - PAP and PAV: appearance goals vs normative or evaluative goals.
 - e.g., demonstration-approach goals that in studies defining these goals as prove goals orientation or performance-approach goals



Discussion

- the effect sizes were small to medium range should not be disregarded, particularly when there is a potential for cumulative effects, as they could grow across years of schooling
- Both internalizing problems and achievement goals have the potential to have long-standing effects on each other
 - necessity to study how anxiety and depression and achievement goals influence one another across time
- school-based programs designed to enhance motivational beliefs may be more effective if they take in account participants' (nonacademic) level of anxiety and/or depression given their relations with achievement goals

