

Peer Effects on Academic Achievement

What does the field of Psychology tell us?

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Step 1: Ask a professor of Psychology

- Answer: “Hmmm... that’s an interesting question. Nope. Can’t think of any actual studies...”

Step 2: Literature review

- The primary review source for academic Psychology is PsychINFO,

The screenshot displays the EBSCO Research Databases search interface. At the top, the EBSCO logo is followed by 'Research Databases' and navigation buttons for 'Basic Search', 'Advanced Search', 'Visual Search', and 'Choose Databases'. Below this is a green navigation bar with links for 'Sign In to', 'Publication Name', 'Keyword', 'Thesaurus', 'Cited References', and 'Indexes'. The main search area features a 'Find:' input field, followed by 'in' and a dropdown menu set to 'Select a Field (optional)'. Below this are three rows of 'and' connectors followed by empty input fields and dropdown menus. A red circle highlights the 'in' dropdown menu, which is currently set to 'PsycINFO'. To the right of the search area are 'Search' and 'Clear' buttons. Below the search area is a 'Refine Search' section with tabs for 'Refine Search', 'Search History/Alerts', and 'Results'. The 'Refine Search' tab is active, showing a 'Limit your results:' section with various filters: 'Linked Full Text' (checkbox), 'References Available' (checkbox), 'Publication Name' (text input), 'Publication Year' (Yr: [] to Yr: []), 'Published Date' (Month [] Yr: [] to Month [] Yr: []), 'Peer Reviewed' (checkbox), 'Publisher' (text input), and 'Publication Type' (dropdown menu). The 'Publication Type' dropdown menu is open, showing options: 'All', 'All Journals', 'Peer Reviewed Journal', and 'Peer-Reviewed Status-Unknown'.

Step 2: Literature review

- The primary review source for academic Psychology is PsychINFO,
- maintained by the American Psychological Association (APA)
- 2,154 journals
- coverage (full text) reaches back 40 years + (older journal articles have been scanned)
- not just in Psychology
 - Education
 - Sociology
 - Anthropology
 - Many branches of biomedicine

Page 1 of Journals

- Association for Computing Machinery journals
- Neurological journals
- Psychology
- Sociology
- Education
- Health Sciences education

ACM Transactions on Applied Perception	1544-3558		ACM - Association for Computing Machinery	2004
ACM Transactions on Computer-Human Interaction	1073-0516		ACM - Association for Computing Machinery	2005
Acta Comportamentalia	0188-8145		Centro de Estudios e Investigaciones en Comportamiento Universidad de Guadalajara	1993
Acta Ethologica	0873-9794	1437-9546	Springer	2004
Acta Neurobiologiae Experimentalis	0065-1400		Nencki Inst of Experimental Biology	1962
Acta Neurologica Belgica	0300-9009		Publications Acta Medica Belgica	1948
Acta Neurologica Scandinavica	0001-6314	1600-0404	Blackwell Publishing	1973
Acta Psiquiátrica y Psicológica de America Latina	0001-6896		Acta Psiquiatría y Psicológica de America Latina	1964
Acta Psychiatrica Scandinavica	0001-690X	1600-0447	Blackwell Publishing	1963
Acta Psychologica	0001-6918		Elsevier Science	1949
Acta Psychologica Sinica	0439-755X		Science Press	1959
Acta Sociologica	0001-6993	1502-3869	Sage Publications	2000
Actas Españolas de Psiquiatría	1139-9287		Grupo Ars XXI de Comunicacion, S.A.	1974
Action Research	1476-7503	1741-2617	Sage Publications	2003
Active Learning in Higher Education	1469-7874	1741-2625	Sage Publications	2000
Activités	1765-2723		ARPACT Association Recherche et Pratiques sur les ACTIVité	2004
Activities, Adaptation & Aging	0192-4788	1544-4368	Haworth Press	1981
Adapted Physical Activity Quarterly	0736-5829	1543-2777	Human Kinetics	1984
Adaptive Behavior	1059-7123	1741-2633	Sage Publications	1992
Addiction	0965-2140	1360-0443	Blackwell Publishing	1971
Addiction Research and Theory	1606-6359	1476-7392	Taylor & Francis	1993
Addictive Behaviors	0306-4603		Elsevier Science	1976
Addictive Disorders & Their Treatment	1531-5754	1531-1122	Lippincott Williams & Wilkins	2002
Adicciones	0214-4840		Sociedad Cientifica Espanola de Estudios Sobre el Alcohol	1991
Administration & Society	0095-3997		Sage Publications	2000
Administration in Social Work	0364-3107	1544-4376	Haworth Press	2001
Administrative Science Quarterly	0001-8392		Cornell Univ Johnson Graduate School of Management	1956
Adminstration and Policy in Mental Health and Mental Health Services Research	0894-587X	1573-3289	Springer	1973
Adolescence	0001-8449		Libra Publishers	1966
Adolescent & Family Health	1533-9890		Inst for Youth Development	2000
Adoption Quarterly	1092-6755	1544-452X	Haworth Press	1997
Adult Education Quarterly	0741-7136		Sage Publications	1969
Advances in Developing Human Resources	1523-4223		Sage Publications	2002
Advances in Health Sciences Education	1382-4996	1573-1677	Springer	1996

In short...

- if it is not in here, it probably doesn't exist

In all those journals, over all those years...

Results for: peer effects AND academic* [Add search to folder](#) [Display link to search](#)

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and in

and in

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[Peers](#)
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[Junior High School Students](#)
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[Death and Dying](#)
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|---|---------------------|
| 1. Authoritative teaching: Tipping the balance in favor of school versus peer effects. Hughes, Jan N.; Journal of School Psychology, Vol 40(6), Nov-Dec 2002. pp. 485-492. [Comment/Reply]
Cited References (28) Times Cited in this Database(2)
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| 2. How are School Composition Effects and Peer Group Mechanisms Related? A Theoretical and Methodological Discussion from the Progress at School Project. Nash, Roy; Harker, Richard; New Zealand Journal of Educational Studies, Vol 37(2), 2002. pp. 171-191. [Original Journal Article]
Cited References (47)
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| 3. Enhancing girls' learning through single-sex education: Evidence and a policy conundrum. Jimenez, Emmanuel; Lockheed, Marlaime E.; Educational Evaluation and Policy Analysis, Vol 11(2), Sum 1989. pp. 117-142.
Times Cited in this Database(3)
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| 4. Peer effects on the motivation of adolescents with learning difficulties. Burroughs, Sue G.; International Journal of Adolescence and Youth, Vol 2(1), 1989. pp. 13-29.
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| 5. How teenagers cope with sibling death: Some implications for school counselors. Balk, David; School Counselor, Vol 31(2), Nov 1983. pp. 150-158.
Times Cited in this Database(9)
Get item | Add |
| 6. Judgments of EMR students toward their peers: Effects of label and academic competence. Budoff, Milton; Siperstein, Gary N.; American Journal of Mental Deficiency, Vol 86(4), Jan 1982. pp. 367-371.
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“Academic * “ = what kinds of topics?

- What specific keywords did our search include when we used the “academic*” stem?

Database: PsycINFO

Find:

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Thesaurus

Page: [Previous](#) | [Next](#)

Browse for:

☒ Term Begins With ☐ Term Contains ☐ Relevancy Ranked

Select term, then add to search using:

Explode

Major Concept

(Click term to display details.)

The term **academic** would appear here had there been an exact match

☐ [Academic Achievement](#)

☐

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☐ [Academic Achievement Motivation](#)

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☐ [Academic Achievement Prediction](#)

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☐ [Academic Aptitude](#)

☐

Academic Engagement Use [Student Engagement](#)

☐ [Academic Environment](#)

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☐ [Academic Failure](#)

☐

Academic Grade Level Use [Grade Level](#)

☐ [Academic Overachievement](#)

☐

Academic Records Use [Student Records](#)

☐ [Academic Self Concept](#)

☐

☐ [Academic Specialization](#)

☐

☐ [Academic Underachievement](#)

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☐ [Acalculia](#)

☐

Accelerated Speech Use [Speech Rate](#)

☐ [Acceleration Effects](#)

☐

Acceptance (Social) Use [Social Acceptance](#)

Accessory Nerve Use [Cranial Nerves](#)

☐ [Accident Prevention](#)

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☐ [Accident Proneness](#)

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Conclusion 1

- There is no literature on “Peer effects and academic performance”
- or any term that starts off “academic...”

How about “Peer effects”? Synonyms?

- Maybe there is a better key term than “peer effects”
- What keywords use “Peer”?

How about “Peer effects”? Synonyms?

- Maybe there is a better key term than “peer effects”
- What keywords use “Peer”?

EBSCO Research
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Database: **PsycINFO** ?

Find:

Thesaurus

Page: [Previous](#) | [Next](#) Browse for:

☐ Term Begins With ☒ Term Contains ☐ Relevancy Ranked

Select term, then add to search using:

(Click term to display details.)

- ☐ [Peer Evaluation](#)
- ☐ [Peer Pressure](#)
- ☐ [Peer Relations](#)
- ☐ [Peer Counseling](#)
- ☐ [Peer Tutoring](#)

Peer Review Use [Peer Evaluation](#)

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How about “Peer effects”? Synonyms?

- Maybe there is a better key term than “peer effects”
- What keywords use “Peer”?

The screenshot shows the EBSCOhost Research Databases interface. At the top, there are navigation buttons for Basic Search, Advanced Search, Visual Search, and Choose Databases. Below these are links for Sign In to My EBSCOhost, Keyword, Thesaurus, Cited References, and Indexes. The database selected is PsycINFO. A search bar contains the word 'academic' with Search and Clear buttons. The Thesaurus section is active, showing a 'Browse for:' field with the word 'peer' and a Browse button. Below this are radio buttons for 'Term Begins With', 'Term Contains' (which is selected), and 'Relevancy Ranked'. A section titled 'Select term, then add to search using:' includes a dropdown menu set to 'or' and an 'Add' button. Below this, a list of terms is displayed, each with a checkbox and a link to its details. The terms are: Peer Evaluation, Peer Pressure, Peer Relations (which is circled in red), Peer Counseling, and Peer Tutoring. At the bottom, there is a note: 'Peer Review Use Peer Evaluation'.

EBSCO Research Databases

Basic Search Advanced Search Visual Search Choose Databases

Sign In to My EBSCOhost Keyword Thesaurus Cited References Indexes

Database: PsycINFO

Find: academic Search Clear

Thesaurus

Page: Previous | Next Browse for: peer Browse

☐ Term Begins With ☒ Term Contains ☐ Relevancy Ranked

Select term, then add to search using: or Add

(Click term to display details.)

- ☐ Peer Evaluation
- ☐ Peer Pressure
- ☒ Peer Relations
- ☐ Peer Counseling
- ☐ Peer Tutoring

Peer Review Use Peer Evaluation

Results for: ((academic*) AND (DE "Peer Relations")) [Add search to folder](#) [Display link to search](#)

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and in

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- [School Adjustment](#)
- [Adolescent Development](#)
- [Behavior Problems](#)
- [Peers](#)
- [Aggressive Behavior](#)
- [Student Attitudes](#)
- [Social Acceptance](#)

- [Familias Unidas: A Systemic, Parent-Centered Approach to Preventing Problem Behavior in Hispanic Adolescents.](#) Pantin, Hilda; Schwartz, Seth J.; Coatsworth, J. Douglas; *In: Preventing youth substance abuse: Science-based programs for children and adolescents.* Tolan, Patrick; Szapocznik, José; Sambrano, Soledad; Washington, DC, US: American Psychological Association, 2007. pp. 211-238. [Original Chapter]
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[Cited References \(40\)](#)
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7. [Perceived Discrimination and the Adjustment of African American Youths: A Five-Year Longitudinal Analysis With Contextual Moderation Effects.](#) Brody, G.

Not productive

- These turn out to be mostly about the negative impact of not fitting in
 - “Students who do not form good peer relations are more likely to not progress to the next grade.”
 - “Discrimination is one result of not fitting in & discrimination impacts academic achievement.”
- This is also the result when we combine “Academic *” with “Peer group”
 - (other variants of “Peer...” yield the same type of results)

“School environment”

- This is a key term used in the literature quite a bit
- A superset of “peer group effects”
- Used to index articles that look at how the attributes of your school impact achievement

Results for: (TX "Academic Achievement" AND TX "College*" AND (TX "School Environment" ... [Add search to folder](#) [Display link to search](#)

Find: TX "Academic Achievement" AND TX "College*" AND (TX "School Environment" OR TX "Peers") in

and in
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Narrow Results by Subject

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1. [Perceived Discrimination and the Adjustment of African American Youths: A Five-Year Longitudinal Analysis With Contextual Moderation Effects.](#) Brody, Gene H.; Chen, Yi-Fu; Murry, Velma McBride; Child Development, Vol 77(5), Sep 2006. pp. 1170-1189. [Original Journal Article]
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6. [Comparisons of Self-Efficacy, Mood, Effort, and Hope Between Students with Learning Disabilities and Their Non-LD-Matched Peers.](#) Lackaye, Timothy; Margalit, Malka; Ziv, Orit; Learning Disabilities Research & Practice, Vol 21(2), May 2006. pp. 111-121. [Original Journal Article]
[Cited References \(80\)](#)

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Again, not productive

- This literature turns out to be about
 - overcrowding
 - bullying / violence
 - racial composition
 - neighborhoods

There is at least one article on “Persistence” (retention)

- He concludes that even when you take other factors into account, peer quality affects retention.

AN EXAMINATION OF THE INFLUENCE OF INSTITUTIONAL CONTEXT ON STUDENT PERSISTENCE AT 4-YEAR COLLEGES AND UNIVERSITIES: A Multilevel Approach*

Marvin A. Titus**

.....

Using constructs from Bean's (1990) [In: D. Hossler and J. P. Bean (Eds.), *The strategic management of college enrollments*. San Francisco: Jossey-Bass] student attrition model and the Berger and Milem (2000) [In: J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. XV, pp. 268–338). New York: Agathon Press] college impact model, national survey data, and multilevel modeling techniques, this study examines the extent to which persistence is influenced by the institutional context. The analytic sample is limited to first-time, full-time, degree-seeking undergraduates attending 4-year colleges and universities nationwide. This study finds that selectivity, as measured by the average student academic ability at an institution, has a contextual effect on college student persistence that reflects a positive increment to the chance of persistence that accrues to a student beyond student-level predictors of persistence. Although the implications of the findings are mainly for theory and methods, policy implications are discussed.

.....

KEY WORDS: student persistence, institutional context, multilevel methods.

Colleges and universities are being held accountable for retention and graduation rates even though more about what contributes to college student persistence needs to be investigated. Policy makers in several states

So, our two initial key terms return nothing

- “Academic *”
- “Peer *”

Approach #2

- Let's start with things we DO know
- then ask what SHOULD be true of peer effects on academic achievement

Reaction of students to group assignments

- We know a bit about how students react when placed in groups to do assignments for class

Goals.

Greater agreement on goals = better cohesion.

- This paper examines the mediating role of students' goals in group work at university. Research on cooperative and collaborative learning has provided empirical support for the cognitive, motivational and social benefits of group work but the antecedents of motivation and ongoing management of emerging motivational and socio-emotional issues have received less attention. A theory of self-regulation that incorporates students' personal goals and perceptions of context, combined with a sociocultural perspective on co-regulation of individuals and contexts, can help understand why and how some groups resolve their social challenges while others are less successful. An empirical study highlighted the mediating role of students' goals in their appraisals of group assignments, perceptions of various aspects of the contexts, and in turn regulation strategies to achieve their goals. Qualitative differences were found in the regulation strategies of students with positive and negative appraisals. (PsycINFO Database Record (c) 2006 APA, all rights reserved)(from the journal abstract)

Volet & Mansfield 2006 (abstract only)

Cohesion

- Groups do well when members feel a sense of cohesion
 - greater cohesion leads to better performance of individuals & group
 - more communication
 - increased participation
 - lower rate of absence
 - higher self-evaluation

Where do you get your goals?

How do you achieve a sense of cohesion?

- Peers are an important ongoing influence

Just one conversation between friends increases agreement on academic motivation

- Experiment. 13 year old 8th graders.
- Task: student says how he/she would resolve a dilemma such as get necessary studying done vs. attend a greatly desired rock concert.
- Series of such dilemmas presented, some before, some after two friends are directed to privately discuss academic motivation
- Finding: on posttest, higher agreement between friends on academic motivation related dilemmas.
- Control group: friends discussed other things, not academic motivational related, such as where they wanted to spend their vacation. This group did not see any pretest--posttest change in degree of agreement on motivation dilemma choices.

Critical determinants of academic success -- friends tend to be on the same wavelength

- Empirical study of grade school children (4th grade through 7th)
- Friends show higher agreement than random pairs on such dimensions as
 - beliefs about self efficacy (competence),
 - motivation,
 - academic standards, &
 - preference for challenging work.

What happens in heterogenous groups?

- Group cohesion is important
 - Agreement on goals of the academic process increases achievement
 - Similarity among students would therefore be good.
 - Right?
-
- What happens when lower ability or lower motivated students are included in the mix?

The problem of slackers

- In the literature on group projects in college, one finding emerges again and again
- Cohesion is substantially reduced by the presence of students unable or unwilling to maintain the group's standard of productivity

“I learned more from group activity than I would have from lectures”

- In general, students react positively to group projects
- (as long as certain factors are controlled)
- Typical finding: 70% to 90% of students who complete a group project agree with the statement,
 - “I learned more from this group activity than I would have learned through other teaching methods.”
- Typical finding: More than 50% will agree with the statement,
 - “I look forward to working on group projects later in life.”
- This is important, as many jobs later in life will be group-based

“I DIDN’T....”
“I DON’T....”

- What happens when the group includes a slacker?
- Agreement with those positive statements declines substantially
- In one study

	Good group	Slacker group
“Learned more from this activity than other methods”		
“Look forward to group projects later in life”		

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	Good group	Slacker group
“Learned more from this activity than other methods”	70%	40%
“Look forward to group projects later in life”		

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“I DON’T....”

- What happens when the group includes a slacker?
- Agreement with those positive statements declines substantially
- In one study

	Good group	Slacker group
“Learned more from this activity than other methods”	70%	40%
“Look forward to group projects later in life”	58%	45%

Payne & Monk-Turner,
2006

Post-graduates, leery of the unqualified

- In another study, post-graduate students were very guarded about engaging in group projects
- Their fear? Slackers.
- Previous experience, in college, had taught them that the quality of your peers has a massive impact on the quality of the work experience
- (An aside for college instructors in the room)
 - They were more willing when the instructor would grade “cooperatively” (clear demarcation of work, subtasks allocated to individuals) than “collaboratively”
 - Students proved very reluctant to take any action against non-contributors, neither reporting or confronting.

Do you perceive your peers as capable & motivated?

- In the Introduction to a journal article on ways to increase participation & productivity in small group activities, Myers (1977) cites these observations:
 - If students perceive their peers to be capable & motivated, they are more likely to commit to the group work
 - If not, the better students are likely to reduce their efforts to match the level that they believe others will be contributing
- Lower quality peers can cause a good student to reduce his/her efforts

Heterogenous groups: what about the less-capable? Do they benefit?

- There is research suggesting that lower achievers may, if paired with higher achievers, increase
 - motivation,
 - perceived academic goals/standards, and
 - achievement

Low achiever with high-achiever friend

- Empirical study: low achiever who has high achiever friend performs better but evaluates himself/herself less positively
 - (This may be a very good thing. Students tend to overestimate themselves and the worst students are most prone to grossly overestimating their competence & performance. The low achiever above may have just become better calibrated.)

But what about low-achiever tossed into a high-achiever environment?

- Claude Steele (1997, and many others) has carried out research on a phenomenon he names “stereotype threat”
- Core idea: Black students may do poorly in a White dominant school environment in part because they themselves wonder about the myth that Black students are less capable of academic excellence
- The simple act of wondering about the stereotype, worrying about it, is enough, Steele argues, to impact performance
- Classic study: you can change the test scores of White males on a math exam simply by “pointing out” to them before the exam that it has been clearly shown that Chinese males are excellent at math, but White males only so-so.
- Will this be a problem for “diversity” students in an elite academic setting?

Summary

- No significant Psychology literature on peer effects on academic achievement
- We can, from research on related topics, offer some hypotheses:
 - If students agree on things such as the goals of the college experience, you will get greater cohesion
 - Cohesion is very important. Many things follow from it.
 - Your goals, motivation, strategies, all are affected by interactions with peers. Even one conversation with your friend brings the two of you more into agreement on these things.
 - In low cohesion academic environments (as when one slacker is introduced into a group project), the work of the large group of good students declines.
 - Less competent students may be elevated by high-competence environment, but they may actually perform worse due to threat.

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