The links between SES, academic motivation and achievement in high-school: A motivational advantage of high-SES students?

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GOALS’ LAB STUDY (2019-2021)
Background

• Studies reveal a number of **adverse effects of low family SES on adolescent developmental outcomes**, including achievement.
  
  (Bradley & Corwyn, 2002; Chmielevski, 2019; Masarik & Conger, 2017)

• Relatively little is known about the **internal psychological processes, such as achievement motivation**, in relation to SES effects on achievement.
Motivational SES effects?

Previous studies indicate that some aspects central for achievement motivation differ by SES and may mediate SES-achievement link, e.g.:

• **Mindset**: higher SES was associated with lower fixed mindset beliefs, which partly mediated SES-achievement link (Destin et al., 2019).

• **Goal orientations**: first-generation college students endorsed performance avoidance goals more than their peers, the difference increasing with the academic level (Jury et al., 2015).

• **Future-oriented perceptions**: social mobility beliefs (Browman et al., 2017), financial aid expectations (Destin, 2016) motivate students to set higher educational aspirations.
Achievement goal orientations

AG are a person’s internal theory of own qualities, abilities, and achievements (Nicholls, 1989), which shapes achievement behaviours, reactions to feedback, achievement levels, etc.

• **mastery-approach** goals refer to the students' intent to acquire and master the content of learning material

• **mastery-avoidance** goals relate to the desire to avoid failure mastering the content of learning material

• **performance-approach** goals pertain to the desire to outperform other students or peers

• **performance-avoidance** goals refer to the intent to avoid being outperformed by classmates or other students
Study goal and hypotheses

Our goal was to explore if adolescent achievement goal orientations were related to family SES and if these effects could explain SES-achievement links.

Hypotheses:
1. Higher SES is related to stronger achievement goal orientations.
2. Achievement goal orientations partly mediate SES-achievement link.

We controlled for perceived class goal structures (mastery and performance) to rule out that SES effects could be explained by perceived classroom expectations for students from different SES.
Hierarchical nature of school-based data

Student outcomes

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SES, grades, goal orientations and perceptions as:
- Individual characteristics
- School/class characteristics
Study participants

• **1268** adolescents (51.7% females) in **76** classes from 36 gymnasiums
• Age 14 - 16 (M = 14.87 SD = 0.39)
• Diverse family and socio-economic background:
  • 67% live with two parents; 22% parental divorce, 4% parental loss, 4% migration
  • 12.9% receive social support (free nutrition at school) (on a national level – 13.7%)
• Homogenous ethnically (> 98% Lithuanian)
Instruments 1

<table>
<thead>
<tr>
<th>Achievement goals orientations (AGQ-R) (Elliot &amp; Murayama, 2008)</th>
<th>Items</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastery approach</td>
<td>3</td>
<td>.83</td>
</tr>
<tr>
<td>Mastery avoidance</td>
<td>3</td>
<td>.76</td>
</tr>
<tr>
<td>Performance approach</td>
<td>3</td>
<td>.83</td>
</tr>
<tr>
<td>Performance avoidance</td>
<td>3</td>
<td>.78</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perceived School Goal Structures (Park et al., 2018)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Mastery structure</td>
<td>6</td>
<td>.81</td>
</tr>
<tr>
<td>Performance structure</td>
<td>5</td>
<td>.82</td>
</tr>
</tbody>
</table>
### Instruments 2

<table>
<thead>
<tr>
<th>Socio-economic background (SES) (based on Family Affluence Scale, Hobza et al., 2017)</th>
<th>Items</th>
<th>Comp. reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home possessions, trips abroad, free meals</td>
<td>5</td>
<td>.60</td>
</tr>
</tbody>
</table>

**Academic achievement**

| Running semester GPA | 1 | - |

**Items Comp. reliability**

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Analyses

• Multi-level path analysis carried out with Mplus 8.6
• Students nested within classes
• MLR estimator was used
### Descriptives

<table>
<thead>
<tr>
<th>Study variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Academic achievement</td>
<td>.26</td>
<td>.49***</td>
<td>.65***</td>
<td>-.29*</td>
<td>.77***</td>
<td>.86***</td>
<td>.33</td>
<td>.72***</td>
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<td>2. SES</td>
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<td>.07</td>
<td>.13</td>
<td>.31</td>
<td>.34</td>
<td>.41</td>
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<tr>
<td>3. Mastery structure</td>
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<td>-.03</td>
<td>.08</td>
<td>-.68***</td>
<td>.71***</td>
<td>.73***</td>
<td>.37</td>
<td>.65**</td>
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<tr>
<td>4. Performance structure</td>
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<td>.09**</td>
<td>-.23***</td>
<td>.13</td>
<td>-.19</td>
<td>-.17</td>
<td>.00</td>
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<tr>
<td>5. AGO: Mastery approach</td>
<td>.30***</td>
<td>.07**</td>
<td>.41***</td>
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<td>.03</td>
<td>.88***</td>
<td>.49*</td>
<td>.74***</td>
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<tr>
<td>6. AGO: Mastery avoidance</td>
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<td>.05</td>
<td>.22***</td>
<td>.01</td>
<td>.51***</td>
<td>.05</td>
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<td>.70***</td>
</tr>
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<td>7. AGO: Performance approach</td>
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<td>.11***</td>
<td>.34***</td>
<td>.48***</td>
<td>.74***</td>
<td>.03</td>
</tr>
<tr>
<td>M (at student level)</td>
<td>7.71</td>
<td>.52</td>
<td>.38</td>
<td>.29</td>
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<td>3.55</td>
<td>3.37</td>
<td>3.58</td>
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<tr>
<td>SD (at student level)</td>
<td>1.29</td>
<td>.50</td>
<td>.76</td>
<td>.93</td>
<td>1.04</td>
<td>0.94</td>
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GOALS’ LAB STUDY (2019-2021)
Results 1

**GOALS’ LAB STUDY (2019-2021)**
Results 1: Summary

On an individual (within class) level:

• Higher student SES is related to higher scores on all aspects of achievement goals orientations (mastery-approach, mastery-avoidance, performance approach, performance-avoidance).

• BUT no direct SES link to achievement.

• Two significant, but very small mediational paths were identified from SES to achievement through mastery approach (effect .01, p<.05) and mastery avoidance (effect .02, p<.01) orientation.
Results 2

Class (between) level

Mastery structure

Mastery approach
$R^2 = .41$

Mastery avoidance
$R^2 = .30$

SES

Performance structure

Performance approach
$R^2 = .17$

Performance avoidance
$R^2 = .24$

Academic achievement
$R^2 = .54$

GOALS’ LAB STUDY (2019-2021)
Results 2: Summary

On an classroom (between classes) level:

• Higher SES in a classroom is related to higher student scores on avoidance goal orientations (mastery-avoidance, performance-avoidance).

• SES has a strong, but only direct, link to achievement – higher SES in a classroom is linked to higher student achievement.
Conclusions

So is higher SES related to a motivational advantage in achievement?

• Higher-SES students have higher scores on all achievement goal orientations.
• Achievement goal orientations have incremental mediational effects on SES-achievement link and only on an individual level.
• Classes with higher average student SES report higher avoidance goal orientations.
• Classes with higher average student SES have substantially higher achievement.
Implications for research

We need to understand better:

• What happens differently in classes/schools with different student SES composition.

• Directional effects between SES-motivation-achievement.

We need to include in research:

• A broader concept of SEC (social-economic-cultural) background into the analyses on academic motivation.

• Other outcomes along with achievement – at least aspects of well-being, emotional.

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Message for policy

Our findings point to the structural SES effects on achievement, perpetuated through the school system.

• SES links to achievement on a classroom level point to **SES-related classroom segregation** effects, which are probably not related to achievement, but driven by other factors in schools and families.

• Educational resources, teaching practices, educational transitions and many more factors require attention of researchers and policy makers.
Acknowledgements

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Thank you!

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Visit the study web: https://tikslulaboratorija.ktu.edu