Exploring the Stability and Instability of Aggressors, Victims & Aggressive-Victims from Childhood to Adolescence

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Question #1:

To what extent is aggression stable in children and adolescents?

• That students who are aggressive in childhood are also likely to be aggressive adolescents.
Stability of Aggressive Reaction Patterns in Males: A Review

Dan Olweus
University of Bergen, Bergen, Norway

Considered in the review are 16 studies on the stability of aggressive behavior and reaction patterns. There is great variation among the studies in sample composition, in definition of variables, in method of data collection, and in the ages and intervals studied. Generally, the size of a (disattenuated) stability coefficient tends to decrease linearly as the interval between the two times of measurement $(T_2 - T_1)$ increases. Furthermore, the degree of stability can be broadly described as a positive linear function of the interval covered and the subject’s age at the time of first measurement, expressed in the age ratio $T_1/T_2$.

The degree of stability that exists in the area of aggression was found to be quite substantial; it was, in fact, not much lower than the stability typically found in the domain of intelligence testing. Marked individual differences in habitual aggression level manifest themselves early in life, certainly by the age of 3. It was generally concluded that (a) the degree of longitudinal consistency
Adolescence-limited and life-course-persistent antisocial behavior: a developmental taxonomy.

TE Moffitt - Psychological review, 1993 - psycnet.apa.org

Abstract 1. Presents a dual taxonomy to reconcile 2 incongruous facts about antisocial behavior: (1) It shows impressive continuity over age, but (2) its prevalence changes dramatically over age, increasing almost 10-fold temporarily during adolescence. This ...

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[CITATION] Life-course-persistent and adolescence-limited antisocial behavior: A developmental taxonomy

TE Moffitt - Psychological review, 1993
What About Instability?

- Clearly a lot of evidence that aggression is stable
- But is this only part of the story?
- Not all early aggressors follow a stable life-course persistent pathway
- Need to consider instability pathways as much as stability
- Implications for intervention?
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Considered in the review are 16 studies on the stability of aggressive behavior and reaction patterns. There is great variation among the studies in sample composition, in definition of variables, in method of data collection, and in the ages and intervals studied. Generally, the size of a (disattenuated) stability coefficient tends to decrease linearly as the interval between the two times of measurement \((T_2 - T_1)\) increases. Furthermore, the degree of stability can be broadly described as a positive linear function of the interval covered and the subject's age at the time of first measurement, expressed in the age ratio \(T_1/T_2\).

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Forms of Aggression

• Physical = hitting, kicking, or pushing other kids (PA)
• Verbal = teasing, calling names or making fun (VA)
• Relational = gossiping, social exclusion and friendship manipulation (RA)
Question #2?

- Examining the developmental stability of aggression may also require greater scrutiny of its different forms (or subtypes).

Is there stability and instability in physical, verbal and relational aggression?
Heterotypic Continuity

• Implications of the heterotypic continuity hypothesis

• However, forms often co-occur and are correlated
• Recognition that relational aggression starts well before adolescence
Question #3?

- Up to this point we have only considered the development of aggression independent of other factors.
- The need to examine aggressive-victims as a distinct group
  - Unique individual characteristics and social experiences at school

Does the development of aggressive-victims follow a similar pattern as the development of aggressors or victims?
Interactional Continuity

- Children’s behaviors elicit responses from peers, and these interaction styles perpetuate behavioral stability
  - Aggression promotes a hostile social environment which leads to adverse peer relationships and peer victimization
  - Peer victimization results in modeling aggressive behaviors which further sustains aggression
    - Stability among aggressive-victims would be expected
Question #4?

To the extent there is stability (or instability), what other factors pertaining to the child (i.e., individual characteristics) or their social environment influences this stability?

- Focus on children’s peer relationships and classroom contexts
Research Questions

1. To what extent is aggression stable in children and adolescents?
2. Is there stability and instability in physical, verbal and relational aggression and peer victimization?
3. Does the development of aggressive-victims follow a similar pattern as the development of aggressors or victims?
4. What other factors pertaining to the child (i.e., individual characteristics) or their social environment influences stability and instability?
Method

Participants

• 482 children (242 girls and 240 boys)
  • $Mage = 6.5$ in grade 1
• Median household income between $30,001$ to $40,000$
  • 19.1% low income (below $20,000)
  • 43.1% middle income or higher (over $50,001)
• Race/ethnicity:
  • Caucasian (80.1%)
  • African American (15.8%)
  • Hispanic, biracial and other backgrounds (4.1%)
Aim 1

1. Identify the nature (i.e., *forms* and *frequencies*) of co-occurring peer aggression and victimization in childhood & adolescence (grades 1, 5, 8 & 11)
   - Hypothesis: Four subgroups distinguishable primarily by their frequencies rather than forms:
     - aggressors, victims, aggressive-victims and uninvolved (i.e., children who were not aggressive or victimized)
   - Form-specific groups (e.g., relational aggressors, or relational aggressive-victims) were plausible and further explored
Measures

Peers’ reports of aggression and victimization

• Scores were standardized by classroom to adjust for varying number of nominators per classroom.

<table>
<thead>
<tr>
<th>Peer nominations</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical aggression:</td>
<td>“Someone who hits, kicks, or pushes other kids.”</td>
</tr>
<tr>
<td>2. Verbal aggression:</td>
<td>“Someone who teases, calls names, or makes fun of other kids.”</td>
</tr>
<tr>
<td>3. Relational aggression:</td>
<td>“Someone who tell other kids they won’t like them or be their friend anymore just to hurt them or get their own way.”</td>
</tr>
<tr>
<td>4. Physical victimization:</td>
<td>“Someone who gets hit, pushed, or kicked by other kids.”</td>
</tr>
<tr>
<td>5. Verbal victimization:</td>
<td>“Someone who gets teased, called names, or made fun of by other children.”</td>
</tr>
<tr>
<td>6. Relational victimization:</td>
<td>“Those who other kids gossip about or say bad things about behind their backs.”</td>
</tr>
</tbody>
</table>
Data Analysis Plan

Aim 1.

• Latent profile analysis (LPA) in MPlus
  • Performed separately at each assessment wave (i.e., four grades: 1, 5, 8, & 11)
  • Using indicators of physical, verbal and relational aggression and victimization
  • A series of models specified (i.e., models with varying numbers of classes)
    • Multiple model fit indices evaluated (e.g., AIC, BIC, SABIC, aLMR-LRT, BLRT, Entropy)
Groups Identified in Grade 1

- Aggressive-Victims (10.3%, n = 38)
- Aggressors (14.1%, n = 52)
- Uninvolved (75.5%, n = 278)

PA = physical aggression, VA = verbal aggression, PV = physical victimization, VV = verbal victimization.
Groups Identified in Grade 5

- **Aggressive-Victims** (4.1%, n = 17)
- **Relational Agg-Vict** (6.9%, n = 29)
- **Aggressors** (15.5%, n = 65)
- **Vicims** (12.4%, n = 52)
- **Uninvolved** (61.1%, n = 256)

PA = physical aggression, VA = verbal aggression, RA = relational aggression, PV = physical victimization, VV = verbal victimization, RV = relational victimization.
Groups Identified in Grade 8

- Aggressive-Victims (4.5%, n = 18)
- Relational Agg-Vict (7.4%, n = 30)
- Aggressors (12.1%, n = 49)
- Victims (11.4%, n = 46)
- Uninvolved (64.6%, n = 261)

PA = physical aggression, VA = verbal aggression, RA = relational aggression, PV = physical victimization, VV = verbal victimization, RV = relational victimization.
Groups Identified in Grade 11

- Aggressive-Victims (3.7%, n = 10)
- Relational Agg-Vict (13.0%, n = 35)
- Aggressors (7.8%, n = 21)
- Victims (5.9%, n = 16)
- Uninvolved (69.6%, n = 188)

PA = physical aggression, VA = verbal aggression, RA = relational aggression, PV = physical victimization, VV = verbal victimization, RV = relational victimization.
Group Comparisons

PA = physical aggression, VA = verbal aggression, RA = relational aggression, PV = physical victimization, VV = verbal victimization, RV = relational victimization.
Discussion (Aim 1)

- Insights into the *nature* of aggressor, victim and aggressive-victims subgroups over time.
  - Over time, most children who engaged in peer aggression or experienced peer victimization were distinguishable more by their *frequencies* (i.e., levels) than *forms* (e.g., physical, verbal, relational).
  - Four of the five identified groups supported this pattern
  - However, one group appeared to be more specialized and had *form-specific* aggression and victimization (i.e., relational aggressive-victims)
Aim 2

2. Investigate the developmental *stability* and *instability* of aggressors, victims and aggressive-victims from childhood to adolescence (i.e., from grade 1 → 5 → 8 → 11).

- Hypothesis: Multiple transitional patterns, both indicative of *stability* and *instability* are expected.
Hypothesized Pathways (Stability)

\[ \text{Time}_x \]
- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)

\[ \text{Time}_{x+1} \]
- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)

\[ \text{Uninvolved} \]

\[ P = \text{physical}, \ V = \text{verbal}, \ R = \text{relational} \]
Hypothesized Pathways (Desistance)

\[ P = \text{physical}, \ V = \text{verbal}, \ R = \text{relational} \]
Hypothesized Pathways (Heterotypic)

$\text{Time}_x$

- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

$\text{Time}_{x+1}$

- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

$P =$ physical, $V =$ verbal, $R =$ relational
Hypothesized Pathways (Interactional)

- Time
- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (PVR)
- Time
- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

P = physical, V = verbal, R = relational
Hypothesized Pathways (Late Onset)

Time\textsubscript{x}

- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

Time\textsubscript{x+1}

- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

P = physical, V = verbal, R = relational
Aim 2.

- Latent transition analysis (LTA)
  - Performed three times to assess subgroup transitions:
    - Grade 1 → G5
    - G5 → G8
    - G8 → G11
  - Subgroup transitions assessed group *stability* and *instability*
    - To assess stability, measurement invariance imposed across grades (if applicable)
    - Instability reflected transition probabilities between different subgroups
Results (Stability)

- **Aggressors (PVR)**
  - Time$_x$: 32% to 52%
  - Increased over time
  - Time$_{x+1}$: Aggressors (PVR)

- **Victims (PVR)**
  - Time$_x$: 27% to 48%
  - No estimate from G1-G5
  - Decreased over time
  - Time$_{x+1}$: Victims (PVR)

- **Aggressive-Victims (PVR)**
  - Time$_x$: 17% to 47%
  - Least stable from G1-G5
  - Most stable from G5-G8
  - Time$_{x+1}$: Aggressive-Victims (PVR)

- **Aggressive-Victims (R)**
  - Time$_x$: 63% to 73%
  - No estimate from G1-G5
  - Time$_{x+1}$: Aggressive-Victims (R)

- **Uninvolved**
  - Time$_x$: 74% to 82%
  - Time$_{x+1}$: Uninvolved

P = physical, V = verbal, R = relational
Results (Desistance)

\[ \text{Time}_x \]
- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

\[ \text{Time}_{x+1} \]
- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

- 31% to 43%
- 36% to 64%
- 25% to 28%
- 22% to 25%

\( P = \text{physical}, \ V = \text{verbal}, \ R = \text{relational} \)
Results (Heterotypic)

\[ \text{Time}_x \]

- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

\[ \text{Time}_{x+1} \]

- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

- 6% to 8%
- 0% to 1%
- 0% to 22%
- Most likely from G8-G11

\( P = \text{physical}, \ V = \text{verbal}, \ R = \text{relational} \)
Results (Interactional)

\[ \text{Time}_x \]
- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

\[ \text{Time}_{x+1} \]
- Aggressors (PVR)
- Victims (PVR)
- Aggressive-Victims (PVR)
- Aggressive-Victims (R)
- Uninvolved

7% to 11%  
8% to 10%

\[ P = \text{physical}, \ V = \text{verbal}, \ R = \text{relational} \]
Results (Late Onset)

\[
\begin{align*}
\text{Time}_x & \quad \text{Aggressors} \\
\phantom{\text{Time}_x} & \quad \text{(PVR)} \\
\phantom{\text{Time}_x} & \quad \text{Victims} \\
\phantom{\text{Time}_x} & \quad \text{(PVR)} \\
\phantom{\text{Time}_x} & \quad \text{Aggressive-Victims (PVR)} \\
\phantom{\text{Time}_x} & \quad \text{Aggressive-Victims (R)} \\
\phantom{\text{Time}_x} & \quad \text{Uninvolved} \\
\text{Time}_{x+1} & \quad \text{Aggressors} \\
\phantom{\text{Time}_{x+1}} & \quad \text{(PVR)} \\
\phantom{\text{Time}_{x+1}} & \quad \text{Victims} \\
\phantom{\text{Time}_{x+1}} & \quad \text{(PVR)} \\
\phantom{\text{Time}_{x+1}} & \quad \text{Aggressive-Victims (PVR)} \\
\phantom{\text{Time}_{x+1}} & \quad \text{Aggressive-Victims (R)} \\
\phantom{\text{Time}_{x+1}} & \quad \text{Uninvolved}
\end{align*}
\]

\[7\% \text{ to } 8\% \]
\[3\% \text{ to } 13\% \]
\[0\% \text{ to } 1\% \]
\[4\% \text{ to } 7\% \]

\(P = \text{physical}, \ V = \text{verbal}, \ R = \text{relational}\)
Discussion (Aim 2)

• Patterns of stability and instability support the premise that the development of aggression and peer victimization are more accurately characterized by heterogeneity
  • Some support for each of the hypothesized pathways (stability, desistance, heterotypic, interactional, & late-onset)
Aim 3

3. Assess the individual, relational and contextual factors associated with children’s group membership.

<table>
<thead>
<tr>
<th>Individual</th>
<th>Relational</th>
<th>Contextual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hostile attributions (AV)</td>
<td>Peer rejection (AV, A, V)</td>
<td>Classroom aggression (A, V)</td>
</tr>
<tr>
<td>Self-blaming attributions (V)</td>
<td>Reciprocated friends (V)</td>
<td>Middle school transition (A, V)</td>
</tr>
<tr>
<td>Emotion dysregulation (AV)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdrawn behaviors (V)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: AV = Aggressive-victim, A = Aggressor, V = Victim; Blue = Positive Association, Red = Negative Association
Measures (Individual Factors)

Self Reports

• Attribution Styles: hypothetical scenarios in the fall and spring of grade 6 (Dell Fitzgerald & Asher, 1987)

1. Hostile intentions: “The kid wanted to make fun of me”
   • fall: $\alpha = .77$; spring: $\alpha = .79$

2. Self-blame: “I must have done something to make it happen”
   • fall: $\alpha = .59$; spring: $\alpha = .59$
Measures (Individual Factors)

Teacher Reports

1. Withdrawn behaviors: 9 items assessing shy, solitary and avoidance behaviors.
   - *Alphas* ranged from .78 to .85

2. Emotion dysregulation: 5-item adapted subscale (see Olson et al., 2013)
   - *Alphas* ranged from .80 to .85
   - Subscales were computed by using the item averages
Measures (Relational Factors)

Peer Reports

1. Peer Rejection: 1 Peer nomination item
2. Mutual Friendships: 1 Peer nomination item
   • All peer report items were standardized by classroom (i.e., z-scores)
Measures (Contextual Factors)

1. *Classroom aggression*: Classroom average of the total nominations received from the multiple aggression indicators

2. *School transitions*: Whether children made school transitions to middle school (0 = no, 1 = yes)
Data Analysis Plan

Aim 3.

• Conditional LPAs
  • Performed separately at each assessment wave (i.e., four times: grades 1, 5, 8, & 11)
  • Group membership was regressed on each of the individual, relational, and contextual factors
    • Individual: Emotion dysregulation, withdrawn behaviors, hostile and self-blaming attributions
    • Relational: Peer rejection and friendships
    • Contextual: Classroom aggression and middle school transition
# Results (Aim 3)

## General profiles of each group:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>V</th>
<th>AV</th>
<th>RA-RV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td>Boys</td>
<td>Boys</td>
<td>Boys</td>
<td>Girls</td>
</tr>
<tr>
<td>Withdrawn Behaviors</td>
<td></td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotion Dysregulation</td>
<td>+</td>
<td></td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Hostile Attributions</td>
<td></td>
<td>+</td>
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<td></td>
</tr>
<tr>
<td>Self-blaming Attributions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Rejection</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Reciprocated Friends</td>
<td></td>
<td>-</td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Classroom Aggression</td>
<td></td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle School Transition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: U = Uninvolved, AV = Aggressive-victims, RA-RV = Relational aggressive-victims, A = Aggressors, V = Victims, NS = Non-significant
Aim 4

4. Explore the moderating role of individual, relational and contextual factors on the continuity of children’s group membership over time.

• Similar to the hypotheses proposed for Aim 3, it was expected that these moderating variables would:

  1. Contribute to the stability of specific risk groups over time

  2. Moderate the transition from:

     Uninvolved group → Risk groups
Data Analysis Plan

Aim 4.

• LTAs with moderation
  • Performed three times to assess subgroup transitions:
    • $G_1 \rightarrow G_5$
    • $G_5 \rightarrow G_8$
    • $G_8 \rightarrow G_{11}$
  • Group membership was regressed on each of the individual, relational, contextual factors (conditional on group membership from prior wave)
Results (Aim 4)

Grade 1

High friendships
Low Withdrawal

Peer rejection
Low Friendships

Uninvolved

Emotion dysregulation
Male

Classroom aggression

Grade 5

Relational aggressive-victims

Aggressors

Victims
Results (Aim 4)

Grade 5

- Low Withdrawal
- Peer rejection
- Low Friendships
- Middle school transition

Grade 8

- Uninvolved
- Aggressors
- Victims
- Hostile attributions
  - Male
  - Classroom aggression
- Relational aggressive-victims
Results (Aim 4)

Grade 5

Aggressors

Emotion dysregulation
Withdrawal

Grade 8

Aggressors
Results (Aim 4)

Grade 8  -->  Grade 11

- Friendships
- Uninvolved
- Emotion dysregulation
  Male
- Relational aggressive-victims
- Aggressors
Discussion (Aims 3 & 4)

• Risk groups were characterized by a unique set of individual, relational and contextual risks, supporting the premise that these are qualitatively distinct groups.

• *Emotion dysregulation* and *peer rejection* were the most consistently associated with risk group membership, regardless of the developmental period assessed.
  • Support and extend interactional continuity perspectives
Implications for Intervention

• Prevalence estimates attest to need for aggression and peer victimization programs
• Need for intervention efforts in elementary, middle school, and high schools?
• Should programs target the correlates of aggression and victimization (e.g., emotion dysregulation or peer rejection)?
  • Support for social-emotional and social-skills programs
  • Whole school approaches seem ideal
Implications for Intervention

• Need for universal *and* targeted programs?
  • Hybrid universal prevention and targeted interventions
  • One-size-fits-all approach may not work for all at-risk children

• LTA: flexible methodology for investigating intervention effects (e.g., transition into the uninvolved group)
Thank you!

Acknowledgements:
This investigation was conducted as part of the Pathways Project, a larger longitudinal investigation of children’s social, psychological, and scholastic adjustment in school contexts that is supported by the National Institutes of Health to Gary W. Ladd.

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