The Cardiovascular Cost of Silence: 
Relationships Between Self-Silencing and 
Carotid Plaque in Midlife Women

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Self-Silencing

- Social relationships are important for women’s health.
- How women express themselves and assert their needs in intimate relationships may be related to health.
- In some relationships, women learn to inhibit self-expression to avoid conflict or loss of relationship: **self-silencing.**

Example items: 
- “Caring means putting the other person’s needs in front of my own.”
- “In order for my partner to love me, I cannot reveal certain things about myself.”

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None to report

Self-Silencing and Women’s Health

- Associated with:
  - Depression
  - Disordered eating symptoms
  - Irritable bowel syndrome
- Has not been examined with cardiovascular health.

Subclinical Cardiovascular Disease (CVD)

- Vascular imaging is used to measure underlying vascular health among people without clinical CVD.
- Carotid plaque: an indicator of subclinical CVD that is known to predict later CVD events.

Indicators of subclinical CVD are useful for studying the development of CVD among midlife women.

Study Aim

- To test cross-sectional associations between self-silencing and carotid plaque in a community sample of midlife women.

MsHeart Study (R01HL105647; PI: Thurston)

- 304 peri/post women
- Age 40-60
- Nonsmoking
- Free of clinical CVD
- No SSRI/SNRI or hormone therapy

Questionnaires
- Silencing the Self Scale (12 items, 4 subscales, rated on 5-pt scale)
- Center for Epidemiologic Studies Depression (CES-D ≥16)

Physical Measures
- Height, weight, blood pressure
- Lipids, glucose, insulin, CRP
- Carotid ultrasound
- Plaque index (scored as 0, 1, ≥2)

Silencing the Self Scale (Jack 1991; Jack & Dill, 1992)

- Measures self-silencing in one’s current/prior intimate relationship.

Silencing the Self
- Inhibiting self-expression and action to avoid conflict and loss of relationship.

Divided Self
- Presenting an outer self compliant with feminine role standards while the inner self grows angry.

Externalized Self-Perception
- Judging the self by external standards.

Care as Self-Sacrifice
- Placing the needs of others before the self in relationships.
Sample characteristics (N=295)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>M (SD), unless noted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>54.1 (4.0)</td>
</tr>
<tr>
<td>Race, N (%) Non-White</td>
<td>84 (27.4)</td>
</tr>
<tr>
<td>Postmenopausal, N (%)</td>
<td>248 (84.1)</td>
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<tr>
<td>BMI</td>
<td>29.0 (6.7)</td>
</tr>
<tr>
<td>SBP</td>
<td>119.9 (14.6)</td>
</tr>
<tr>
<td>DBP</td>
<td>70.2 (9.2)</td>
</tr>
<tr>
<td>LDL</td>
<td>130.7 (33.3)</td>
</tr>
<tr>
<td>Depressive symptoms, CES-D ≥ 16, N (%)</td>
<td>41 (13.9)</td>
</tr>
</tbody>
</table>

Self-silencing subscale is associated with plaque

Multinomial logistic regressions adjusted for age, race, education, SBP, DBP, BMI, LDL cholesterol, medications (blood pressure, lipids, diabetes), depressive symptoms

Self-silencing subscale is associated with plaque

<table>
<thead>
<tr>
<th>Subscale</th>
<th>OR (95%CI)</th>
<th>p = .02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silencing the Self</td>
<td>1.14 (1.02-1.28)</td>
<td>.02</td>
</tr>
<tr>
<td>Externalized Self-Perception</td>
<td></td>
<td></td>
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<tr>
<td>Care as Self-Sacrifice</td>
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<tr>
<td>Divided Self</td>
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High self-silencing is related to increased odds of plaque index ≥2

*OR (95%CI) = 1.14 (1.02-1.28); Adjusted for age, race, education, SBP, DBP, BMI, LDL cholesterol, medications (blood pressure, lipids, diabetes), depressive symptoms

*p<.05
Summary

• Social relationships are important for women's cardiovascular health.

• Self-silencing of emotional expression in intimate relationships was related to greater carotid plaque in midlife women.

• Association persisted beyond adjustment for demographics, CVD risk factors, and depressive symptoms.

Clinical Implications

❖ Emotional power dynamics in intimate relationships may be important for cardiovascular health in midlife women.

❖ Clinicians can support women toward greater self-expression and assertion.