The Chameleon Effect: The Lability of Global Self-esteem

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The chameleon effect occurs when the nature of global self esteem (GSE) responses is altered by the content of other items in the survey.

In three different studies GSE items were embedded in a broadly multidimensional self-concept instrument or within domain-specific instruments focusing on academic, artistic, or physical self-concept.

In each study, responses to GSE items embedded among items focusing on a specific self-concept domain (academic, artistic, or physical) were more highly related to that domain than GSE items from a broadly based self-concept instrument.

The Chameleon Effect

Patterns of correlations showed that GSE embedded in a particular domain (academic, physical, performing arts) took on nature of that domain. For example, responses to GSE items embedded in an academic self-concept instrument were more "academic" than responses to GSE items embedded in a physical self-concept instrument.

Confirmatory Factor Analysis (CFA) demonstrated that the same GSE items embedded in different instruments measured different factors.

The results have theoretical implications for how individuals form GSE perceptions and practical limitations for the interpretation of GSE responses in correlational and experimental studies.

The Chameleon Effect

Global Self Esteem (GSE) is typically measured by "content free" items assumed to reflect a unidimensional construct that does not depend upon the other items with which they appear
Examples of GSE items are: "I feel good about myself," Overall, I have a lot to be proud of," "Overall I am no good."

For present purposes an alternative assumption is posited -- "chameleon effect." According to the chameleon effect, GSE responses assume the nature of the items with which they appear.

Critical tests of the chameleon effect are whether responses to GSE items embedded in two different instruments reflect one or two factors and the nature of relations between these GSE scales and other constructs within each instrument.

Nature of Context Effects

Changes in the context can produce mean shifts (e.g., Morse & Gergen, 1970). The effect of context on mean GSE responses is NOT the focus of our research.

We are asking a more basic question about whether the attributed meaning and underlying nature of GSE items is changed by the context within which they appear.

To use a loose analogy, we are not asking whether the size of the orange appears to be larger or smaller in different contexts, but whether what seems to be an orange in one context appears to be an apple in another context. If there is an "apples to oranges" shift in the meaning of the underlying construct, then the question about the relative size of the oranges is irrelevant.

Stability of GSE Responses

Theoretically GSE is assumed to be more stable than domain specific components of self-concept (e.g., academic, social, physical, emotional). This follows in that it is assumed that respondents subjectively evaluate and appropriately weight all specific components of self-concept in forming GSE responses.

Marsh (1990a, 1993a), however, suggested that respondents may simply base their GSE responses on their immediate experience, mood, or the contents of their short-term memory instead of pursuing the more cognitively demanding task of searching for and appropriately weighting relevant information.

Empirical results suggest that GSE is less stable-- not more stable.

The Present Investigation

A set of 3 related studies were designed to test the chameleon hypothesis.

GSE responses are correlated with responses to the Self Description Questionnaire (SDQ) and the Academic SDQ. Both instruments contain Academic, Math, English, School, and
GSE scales, the remaining SDQ scales are nonacademic whereas the remaining ASDQ scales are academic. ASDQ GSE are predicted to be more correlated with Academic responses than SDQ GSE responses.

In Studies 2 and 3, a different and stronger design is used to test the chameleon effect. In both studies, the same participants responded to the same GSE items embedded in both the SDQ and another instrument (ASPI in Study 2, PSDQ in Study 3). In Study 3 a subsample also completed the EASDQ (with no GSE items) on a separate occasion.

Study 1: Preliminary Results

**ASDQ = Academic Self Description Questionnaire**

Correlations between ASDQ GSE (GSE scale from the ASDQ) and the Academic, English, and Math scales from the ASDQ are much larger than the correlations between SDQ GSE and the Academic, English, and Math scales from the SDQ.

It is also interesting to note that PE self-concept is only modestly correlated with ASDQ GSE, but Physical self-concept is substantially correlated with SDQ GSE.

The results are consistent with the chameleon effect -- GSE items embedded in the ASDQ are more strongly related to the common academic scales than responses to GSE items embedded in the SDQ.

### Study 1. Correlations Between GSE and Academic Self-concept Scales on the SDQII and ASDQ.

**ASDQ SDQ-II**

(n=616) (N=2664)

<table>
<thead>
<tr>
<th>Common Scales</th>
<th>GSE</th>
<th>GSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSE</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Academic</td>
<td>.721</td>
<td>.566</td>
</tr>
<tr>
<td>English</td>
<td>.519</td>
<td>.380</td>
</tr>
<tr>
<td>Math</td>
<td>.480</td>
<td>.281</td>
</tr>
</tbody>
</table>

<<Physical .276 .464>>
Study 2: Results

(ASPI = Artistic Self Perceptions Inventory)

Here we compare correlations between the same GSE items embedded in the SDQ and the ASPI instruments. Critical comparisons are between correlations based on SDQ GSE and ASPI GSE responses.

For 9 of 10 SDQ-II scales, correlations are higher for the SDQ-II GSE scale than the ASPI GSE scale. The exception to this pattern is for the SDQ-II English scale, and this is the SDQ-II scale that is most strongly related to the ASPI artistic scales.

For all 4 ASPI scales, correlations with the ASPI GSE are larger than those involving the SDQ-II GSE scale.

Study 2. Correlations Relating the SDQ-II GSE and ASPI GSE to the Remaining SDQ Scales and the Remaining ASPI Scales

<table>
<thead>
<tr>
<th>GSE</th>
<th>SDQ GSE</th>
<th>ASPI GSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDQ GSE</td>
<td>.000 .839</td>
<td></td>
</tr>
<tr>
<td>ASPI GSE</td>
<td>.839 1.000</td>
<td></td>
</tr>
<tr>
<td>SDQ Physical Ability</td>
<td>.283 .194</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>.587 .533</td>
<td></td>
</tr>
<tr>
<td>Opposite Sex</td>
<td>.411 .370</td>
<td></td>
</tr>
<tr>
<td>Same Sex</td>
<td>.498 .469</td>
<td></td>
</tr>
<tr>
<td>Honesty</td>
<td>.390 .366</td>
<td></td>
</tr>
<tr>
<td>Parents</td>
<td>.466 .390</td>
<td></td>
</tr>
<tr>
<td>Emotional</td>
<td>.459 .317</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>.339 .202</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>.400 .414</td>
<td></td>
</tr>
<tr>
<td>Academic</td>
<td>.674 .600</td>
<td></td>
</tr>
<tr>
<td>ASPI</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Visual Art .165 .220
Dance .091 .148
Drama .189 .251
Music .130 .191

Note. Note. ASPI = Artistic Self Perceptions Inventory, SDQ = Self Description Questionnaire, GSE = Global Self Esteem. The same Global Self Esteem items were embedded in the ASPI (ASPI GSE) and SDQ (SDQ GSE) instruments.

Study 2: CFA Results

CFA models provided a stronger test of the chameleon hypothesis

Models positing separate SDQ GSE and ASPI GSE factors fit the data significantly better than models positing one GSE factor.

The correlation between the SDQ GSE and the ASPI GSE is substantial ($r = .906$, SE = .017), but significantly less than 1.0.

SDQ GSE was more correlated with SDQ factors, APSI GSE was more correlated with ASPI factors. Requiring SDQ GSE correlations to be equal to corresponding ASPI GSE correlations led to a poorer fit.

In summary, the preliminary inspection of correlations based on SDQ and ASPI scale scores, a comparison of CFA models, and correlations from the best fitting CFA model all support the chameleon effect.

Study 3: Preliminary Results

(PSDQ = Physical Self Description Questionnaire. EASDQ = Elite Athlete SDQ.)

Correlations involving the SDQ-II GSE and PSDQ GSE scales are compared

For all 7 SDQ-II scales considered here, correlations are higher for the SDQ-II GSE scale than the PSDQ GSE scale.

For all 10 PSDQ scales (except for Health) correlations with the PSDQ GSE are larger than those involving the SDQ-II GSE scale.

Consistent with the earlier results, the PSDQ GSE responses are more highly correlated with all EASDQ scales than the SDQ-II GSE responses.

The results support the chameleon hypothesis.
Study 3: Correlations Relating the SDQ-II GSE and PSDQ GSE

Total group Elite athletes

PSDQ SDQ-II PSDQ SDQ-II

GSE GSE GSE GSE GSE

PSDQ GSE 1.000 .897 1.000 .826
SDQ-II GSE .897 1.000 .826 1.000

SDQ-II

Academic .547 .580 .453 .530
English .359 .374 .283 .301
Math .312 .331 .333 .339
Emotional .552 .558 .518 .581
Parents .479 .495 .363 .487
Same Sex .484 .527 .425 .581
Opposite Sex .476 .485 .352 .424

PSDQ

Health .293 .292 .362 .360
Coordination .640 .577 .490 .363
Body Fat .500 .428 .593 .511
Sport .605 .520 .560 .435
Global Phys .745 .711 .729 .688
Appearance .625 .593 .496 .482
Strength .527 .468 .468 .362
Flexibility .514 .461 .317 .231
Endurance .517 .434 .379 .252
EASDQ
Skills .332 .214
Body .228 .172
Aerobic .315 .200
Anaerobic .298 .224
Mental .268 .199
Performance .302 .233

Note. EASDQ = Elite Athlete Self Description Questionnaire, PSDQ = Physical Self Description Questionnaire, SDQ = Self Description Questionnaire, GSE = Global Self Esteem.

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OVERALL DISCUSSION

Collectively, the results of the three studies provide strong support for a priori predictions and the chameleon effect.

Further Implications include:

Nature of method effects (temporal, physical, content proximity)

Cognitive interpretations for how GSE responses are formed and stability of GSE responses
Broader implications for interpretation of GSE, particularly for "just throw it in and see what happens" studies.

Methodological implications even for random assignment and pre-post studies.

Usefulness of CFA.

REFERENCES


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