A conclusive and empirically sound analysis of relative clauses (RCs) has not yet been achieved. Among the numerous issues to be resolved are so-called binding-theoretic reconstruction effects in restrictive RCs (RRCs). The German NP/DP in (1) contains a RRC exhibiting this kind of reconstruction effect:

(1) das [Gerücht über sich], das Peter nicht ertragen kann
    the rumor about self which Peter not bear can
    ‘the rumor about himself, that Peter cannot bear’  

Salzmann (2006:ex. 262b)

If we adopt the theoretical assumption that the reflexive *sich* in the head of the RRC in (1) must be bound by *Peter* via Principle A of Binding Theory (Chomsky 1981), then *sich* must be c-commanded by *Peter* at the time of the application of Principle A, and, therefore, represented within the RRC. One (widely adopted) way to achieve this is to syntactically reconstruct the head into the RRC (hence the term binding-theoretic reconstruction).

However, it has been noted repeatedly that grammaticality judgments on RRCs exhibiting reconstruction effects are rather unclear and controversial (cf. Bhatt 2002, Sauerland 2003, Salzmann 2006). As far as we can tell, no attempt has been made before to resolve the problem with reconstruction data under controlled conditions, and the judgments given in the literature all seem to be based on the introspective verdict of the individual author only.

In order to expand this highly limited empirical foundation and disentangle the factors involved in reconstruction effects in German RRCs, we designed a controlled experiment in the form of a paper-and-pencil questionnaire employing a 2AFC interpretation task followed by an acceptability judgment on a 7-point Likert scale. The design was 2 (TYPE OF ANTECEDENT: negative quantifier vs. proper name) × 3 (TYPE OF PRONOUN: reflexive vs. personal vs. possessive). Cf. (2) for the abridged (slashed) version of the 6 conditions (a-f) with one particular item (i. = negative quantifier with reflexive/a/personal/b/possessive/c pronoun, ii. = proper name with reflexive/d/personal/e/possessive/f pronoun):

(2) i. Diejenigen Geschichten über [sich/a/ihn/b/seine/c Beziehung zu Ministranten], die kein katholischer Pfarrer hören mag, kursieren in der Regel am längsten in der Gemeinde.
    ‘Those stories about himself/him/his relation to acolytes that no Catholic minister likes to hear, usually circulate the longest in the parish.’

ii. Diejenigen Geschichten über [sich/d/ihn/e/seine/f Beziehung zu Ministranten], die Pfarrer Huber nicht hören mag, kursieren in der Regel am längsten in der Gemeinde.
    ‘Those stories about himself/him/his relation to acolytes that Minister Huber doesn’t like to hear, usually circulate the longest in the parish.’

The possessive pronoun and the negative quantifier condition were included for exploratory reasons only. 24 items were interspersed with 64 fillers and assigned to six lists, which in turn were assigned to participants according to a Latin Square. Six additional lists were constructed by inverting the presentation order of the 88 items. The resulting factor ORDER was included in the analysis to check for ordering effects; there was no main effect of ORDER, nor any interaction with our experimental factors.

The decision-cum-rating task was performed by 58 native speakers of German. We predicted the participants to choose the bound interpretation more often in the case of reflexive pronouns (Principle A), and the unbound interpretation more often in the case of personal pronouns (Principle B). Thus, we predicted an interaction of TYPE OF PRONOUN × BINDING DECISION, disregarding possessive pronouns.

The results for our two dependent variables revealed a mixed picture: As predicted, relative frequencies of decisions showed that the bound reading was chosen more often in the case of reflexive
pronouns (93% overall). At the same time, however, the proportion of bound readings for personal pronouns (77% overall) ran counter to our predictions, cf. Table 1.

<table>
<thead>
<tr>
<th>condition</th>
<th>% bound reading</th>
<th>(SD)</th>
<th>mean rating</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>.91</td>
<td>(.29)</td>
<td>5.24</td>
<td>(1.54)</td>
</tr>
<tr>
<td>b</td>
<td>.74</td>
<td>(.44)</td>
<td>5.09</td>
<td>(1.52)</td>
</tr>
<tr>
<td>c</td>
<td>.76</td>
<td>(.43)</td>
<td>5.41</td>
<td>(1.38)</td>
</tr>
<tr>
<td>d</td>
<td>.95</td>
<td>(.21)</td>
<td>5.72</td>
<td>(1.36)</td>
</tr>
<tr>
<td>e</td>
<td>.80</td>
<td>(.40)</td>
<td>5.48</td>
<td>(1.41)</td>
</tr>
<tr>
<td>f</td>
<td>.65</td>
<td>(.48)</td>
<td>5.63</td>
<td>(1.32)</td>
</tr>
</tbody>
</table>

Table 1: Relative frequency of bound readings and mean ratings (SD = standard deviation)

Moreover, and in line with our predictions, judgments on reflexive pronouns were higher than judgments on personal pronouns under the bound reading, while the reverse was true for the free reading: Here, reflexive pronouns were judged less acceptable than personal pronouns. The results for the possessive pronouns were somewhat inconclusive. Similarly, the factor ANTECEDENT exerted a main effect that we cannot explain so far. Cf. Figure 1 for a graphical depiction of these results.

While most of our predictions were corroborated by the results of the experiment, we also encountered some quite puzzling outcomes. The high proportion of decisions for the bound reading of personal pronouns, for example, is highly unexpected under the assumption that the head of the RC reconstructs. Similarly surprising was that personal pronouns received higher acceptability ratings under the bound reading than under the free reading.

In order to exclude the possibility that these results are primarily due to a) the non-canonicality of the test sentences or b) the lack of an available discourse antecedent other than the proper name/negative quantifier in (2), we are currently conducting an additional experiment to determine the available readings and their respective ratings of a) the canonical counterparts of our test sentences and b) our test sentences in a context where there is another discourse antecedent available.

To our knowledge, our experiments represent the first attempt to disentangle the factors involved in binding-theoretic reconstruction effects in German RRCs under controled conditions. With our first experiment, we have been partly successful in partitioning variance, and accounting for parts of it. With our follow-up experiment, we expect to find answers to the above-mentioned questions concerning canonicity and availability of a discourse antecedent. However, and not surprisingly, even more factors seem to play some role, and further research will be required to account for their influence.