Temptation and Self-Control: scoped review

Igor Rivin · 24 November 2026 · AI-assisted source audit

Theorem 9 has a scaling counterexample. Theorem 6 retains its surrounding congruence assumption.

Reviewed edition: September 2000 working paper; not collated with the 2001 journal article.

This report publishes only reconciled findings with direct source and exact arithmetic checks. Other branches of the paper remain unaudited or unresolved. It makes no claim of priority or of an exhaustive search for corrections.

Checked findings

In the working paper, physical p. 22, Theorem 9 requires a representation $(u_2, \gamma v_2)$ but puts $u_2 + v_2$ in its first convex-combination equation. Take $u_1 = p_1$, $v_1 = p_2$, $u_2 = u_1$, $v_2 = v_1$, `=1`, `=0` and $\gamma = 1/2$. The printed equations hold. For lotteries `x=(1/2,0,1/2)` and `y=(0,3/4,1/4)`, the values of singleton x, the pair, and singleton y are respectively:

Representation	`{x}`	`{x,y}`	`{y}`
(u_1, v_1)	1/2	0	0
$(u_1, v_1/2)$	1/2	1/8	0

Thus the second preference exhibits self-control on the pair while the first does not, contrary to the printed implication. The rows defining these preferences are independent, so the regularity requirement is met.

Astra proposes replacing the first sum by $u_2 + \gamma v_2$, using the actual representing pair throughout. This makes the common-maximizer sufficiency argument work; its complete matrix/cone necessity argument is retained for further review. Theorem 6 should be handled separately: physical p. 18 announces its congruence assumption before the theorem, so its omission from the display is not evidence that the authors worked without that premise.

The earlier core representation case study covers different claims. This report extends it to selected comparison results; the weaker-continuity branch remains open.

Evidence and limits

The panel used independent Sol 6.2 and Fable 5.2 assessments, followed by non-blind Astra 6.2 adjudication. The coordinator checked the reported witnesses against the source and replayed exact rational calculations. This is not proof-assistant verification or a full-paper certificate. General repair proposals remain candidates until separately checked.

5 assessments are recorded for this paper; 2 initial responses retain source-access flags. The focused response accounts for every supplied source. Recorded usage for these packets is USD 5.7725, within the collection's USD 100 ceiling. No additional inference was used to prepare this publication.

The neutral source inventory preserves the complete PDF and text/OCR index, including sections and bibliography. The dependency graph covers selected source-attributed inputs; unmarked or unconnected claims have not thereby been verified.

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Cite this report

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