

# Is proactive or reactive support more critical for eliminating Working Memory Capacity differences in the Stroop task

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## 1. Stroop Task (1935): Measures attentional control.

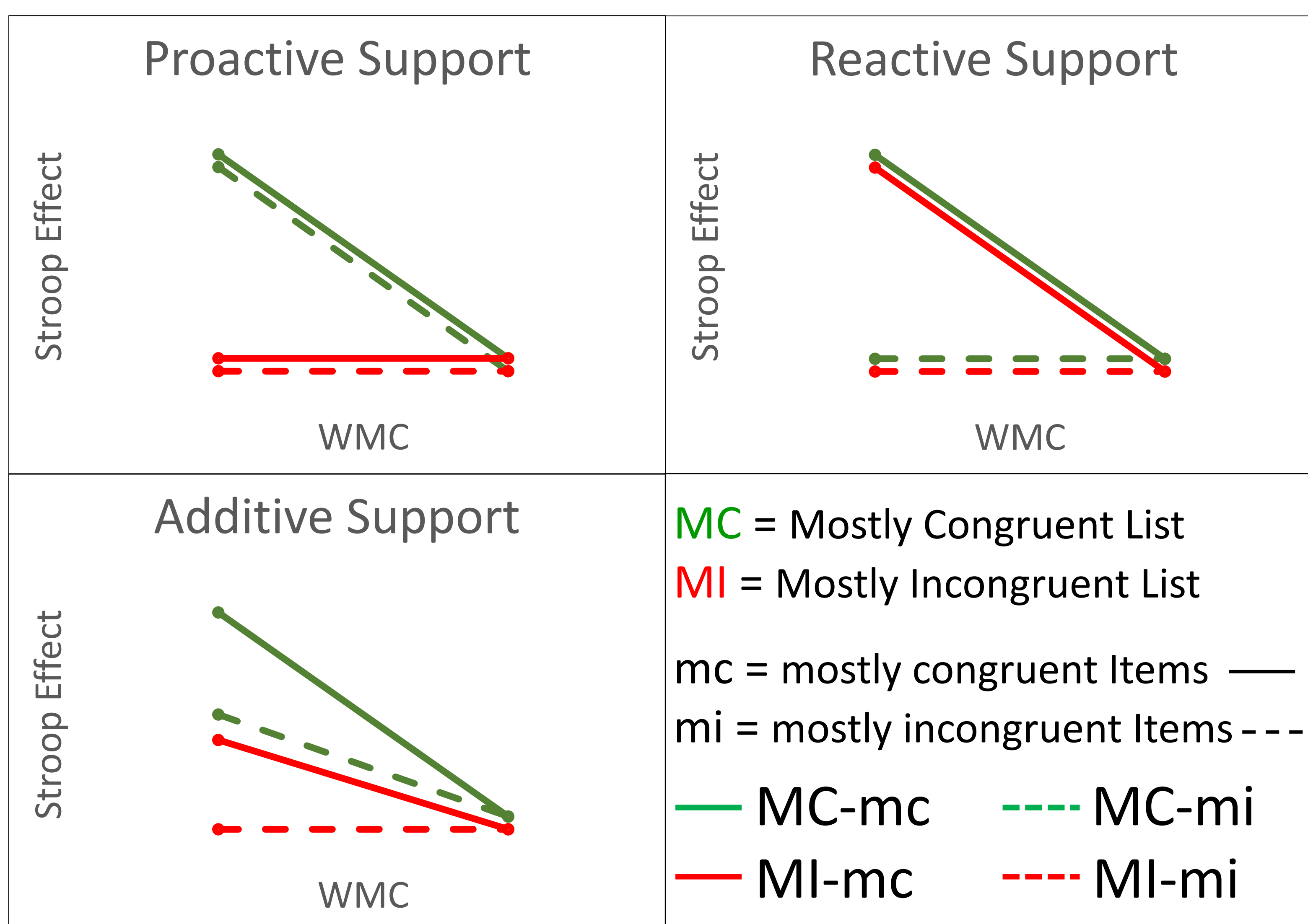
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Kane and Engle (2003) found Working Memory Capacity (WMC) interacts with listwise proportional congruency (LWPC).

- Larger Stroop effects for low spans in mostly congruent (MC) lists compared to mostly incongruent (MI) lists
- However, typical listwise manipulations confound LWPC and item-specific proportional congruency (ISPC)
  - MC lists contain mc items

## 2. Proactive and Reactive Support

WMC x LWPC may be due to proactive support from a MI list, reactive support mi items, or both (additive effect).



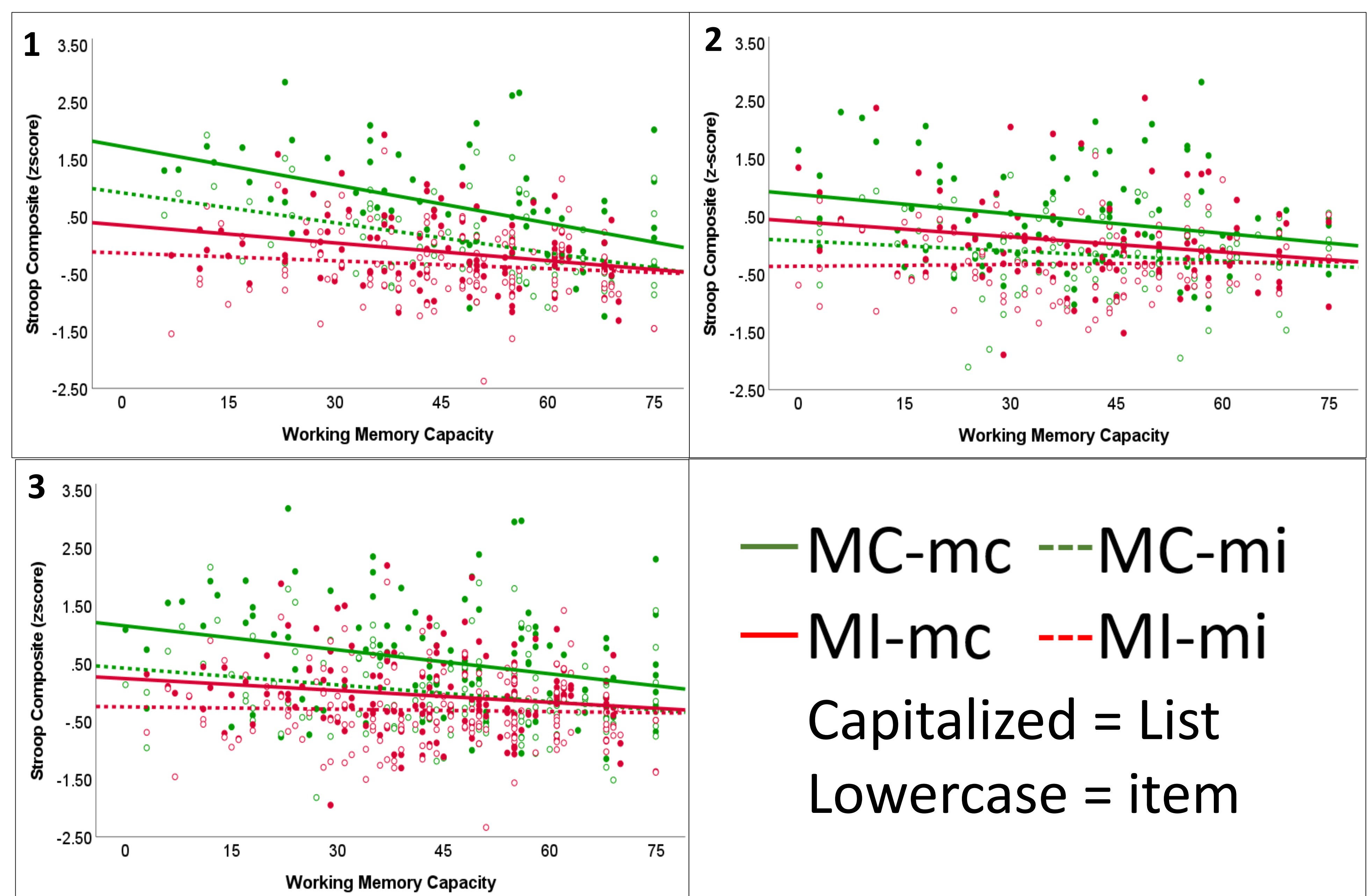
## 3. Hypotheses and Methods

- Used AOSPAN to measure WMC
- ISPC and LWPC manipulated every 18 trials within subjects in a recent study and Hutchison 2011 between LWPC manipulation was reanalyzed.
- Items were mc or mi and filler items that were all congruent or incongruent were used to manipulate LWPC

## 4. Results

Experiment	MC List		MI List	
	mc items	mi items	mc items	mi items
1. Hutchison 2011	-.442***	-.463***	-.263**	-.112
2. Current	-.234*	-.155	-.201*	.030
3. Combined	-.275**	-.239**	-.165*	-.034

Note.\* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\* =  $p < .001$



## 5. Conclusions

- Overall, evidence favors additive model.
- Both proactive and reactive support are important for reducing WMC differences.
- Null WMC correlation only when **BOTH** list and items are MI.
- WMC differences are influenced as much by reactive support as by proactive support, counter to most assumptions.