

Process mech part 1 - vary time, white men, demo first (slow validation)

ddd

5/25/2021

R Markdown

```
## Warning: Expected 2 pieces. Additional pieces discarded in 15 rows [3020, 3929,
## 5391, 7883, 8569, 10708, 11628, 11988, 12360, 14169, 14762, 19758, 20779, 22097,
## 22562].

## Warning: Expected 2 pieces. Missing pieces filled with `NA` in 24030 rows [1, 2,
## 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, ...].

## Warning: Expected 3 pieces. Missing pieces filled with `NA` in 9317 rows [2313,
## 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326,
## 2327, 2328, 2329, 2330, 2331, 2332, ...].

## [1] 753

## [1] 3001

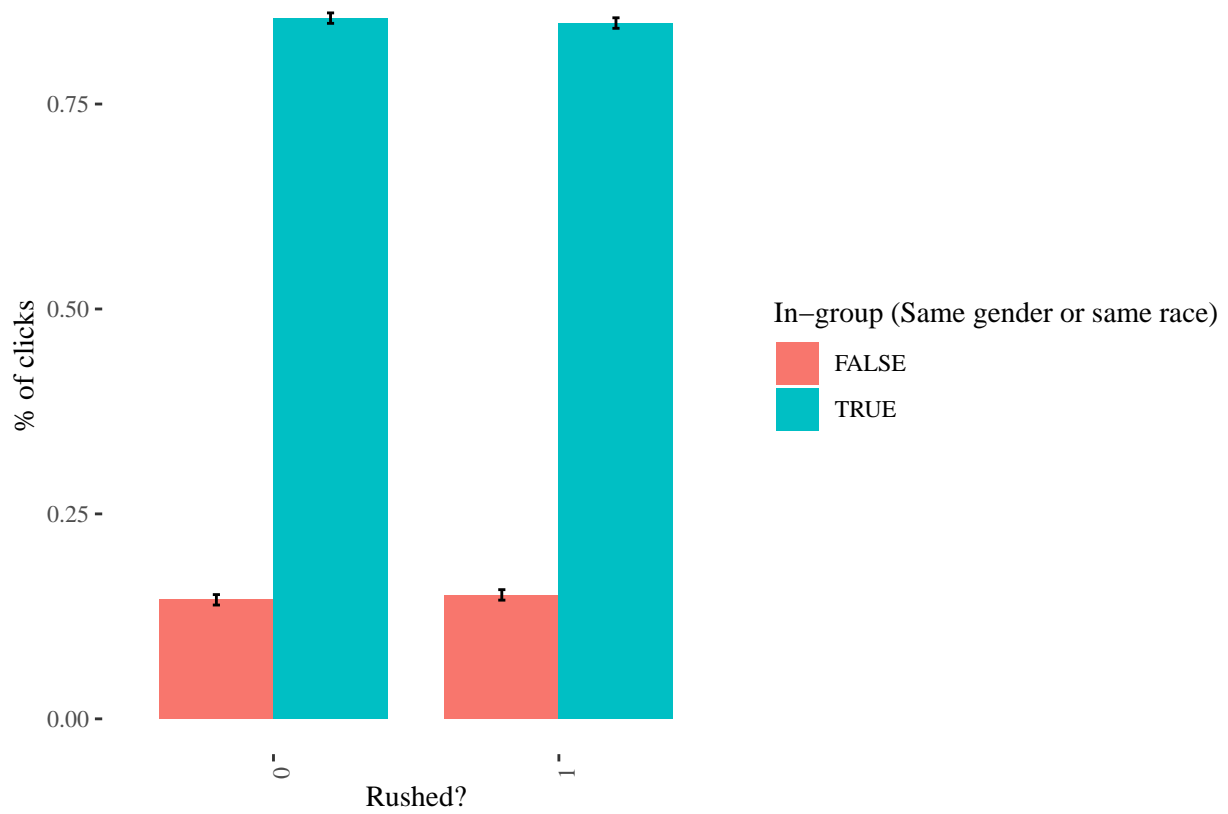
##
##           Female           Male Non Binary           Test
##           0             0             1             0             0

## [1] 38.83001

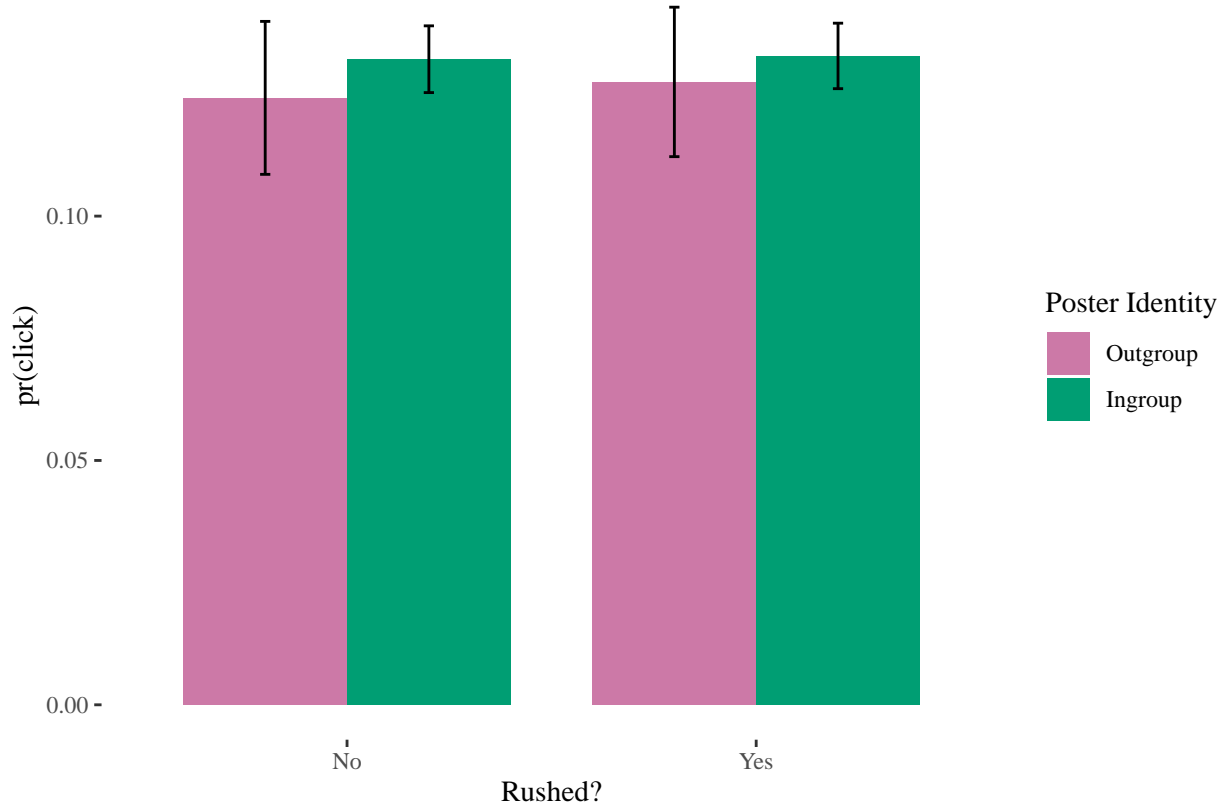
##
## White
##      1

##
## less.than.bachelors      bachelors more.than.bachelors
##           0.4369190      0.3691899           0.1938911

## `summarise()` regrouping output by 'timed' (override with `groups` argument)
```



`summarise()` regrouping output by 'timed' (override with `.groups` argument)



% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu

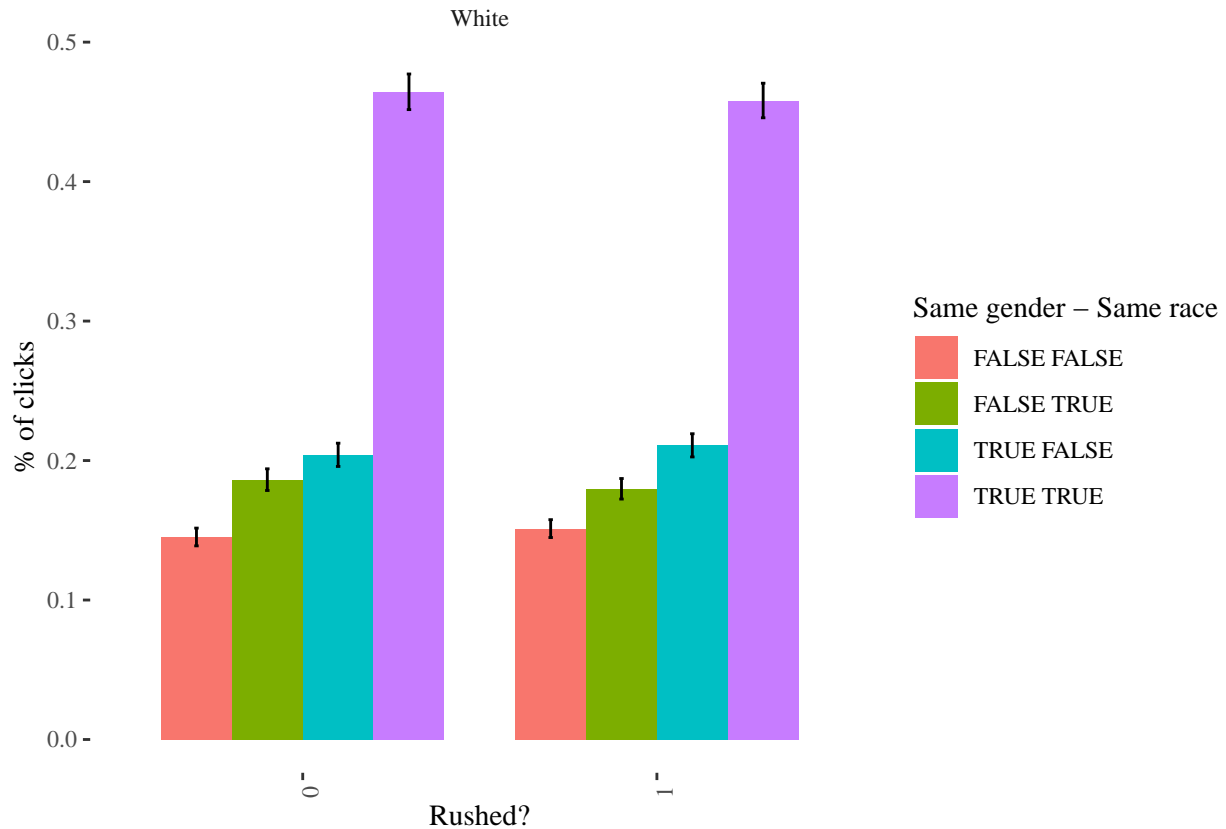
% Date and time: Thu, Jan 27, 2022 - 08:34:23

Table 1:

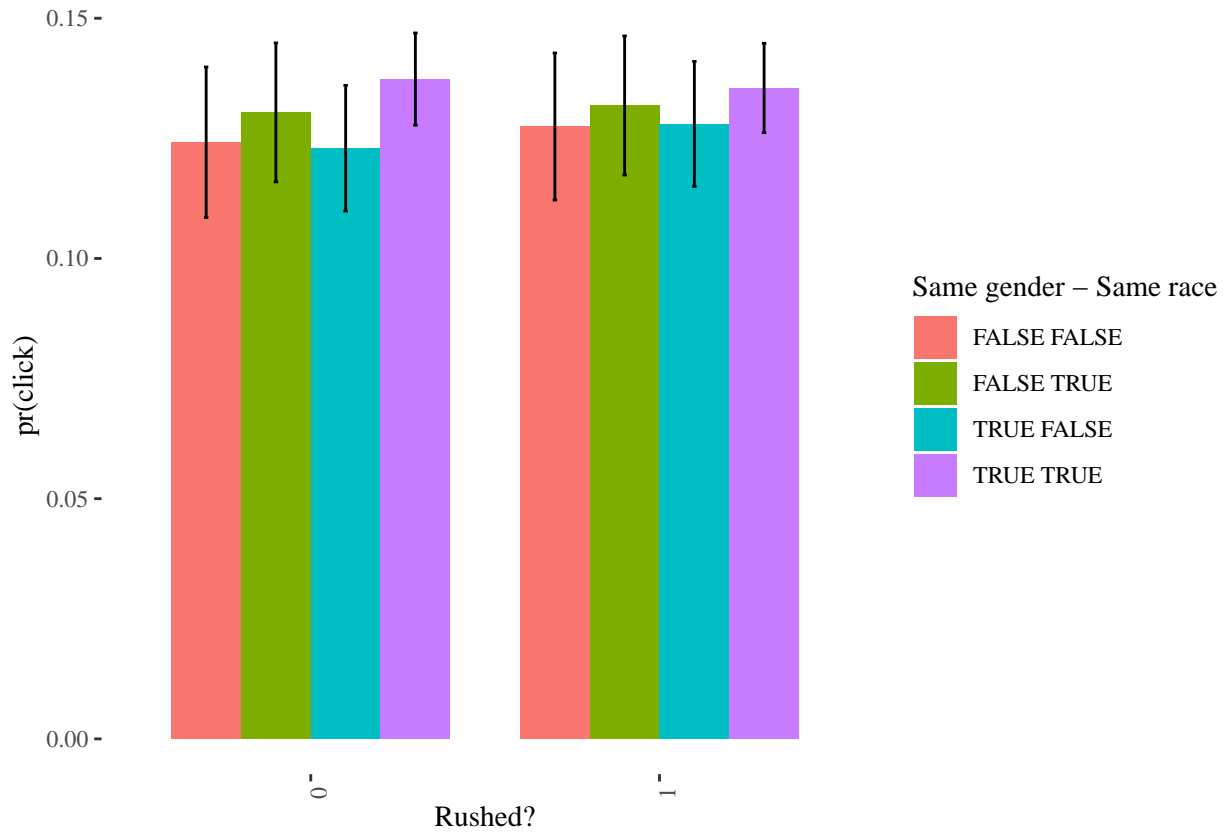
	<i>Dependent variable:</i>
	clicked
in.group.lax	0.005 (0.009)
deliberate	-0.003 (0.011)
in.group.laxTRUE:deliberate	0.003 (0.012)
Constant	0.127*** (0.008)
Observations	22,833
R ²	0.0001
Adjusted R ²	-0.0001
Residual Std. Error	0.338 (df = 22829)
F Statistic	0.410 (df = 3; 22829)

Note: *p<0.1; **p<0.05; ***p<0.01

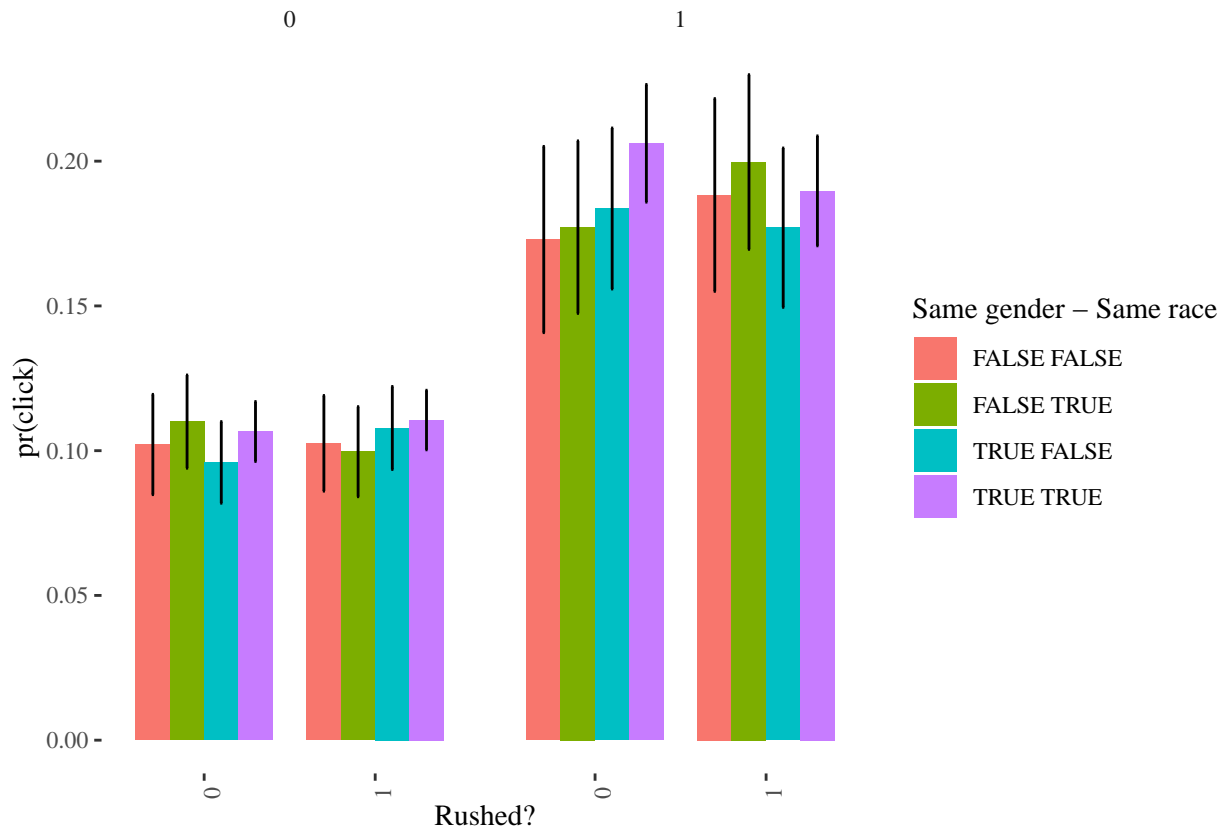
`summarise()` regrouping output by 'timed', 'race.simple' (override with `.groups` argument)



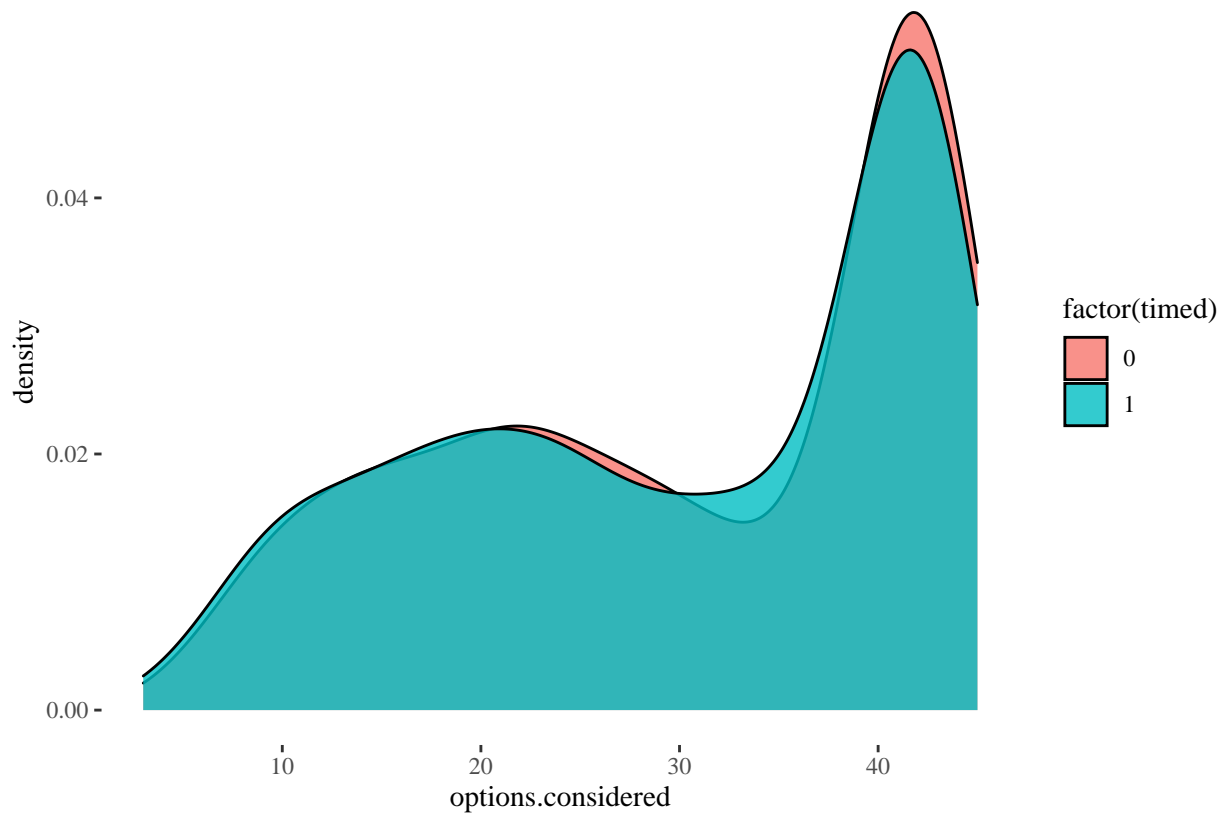
```
## `summarise()` regrouping output by 'timed' (override with `.groups` argument)
```



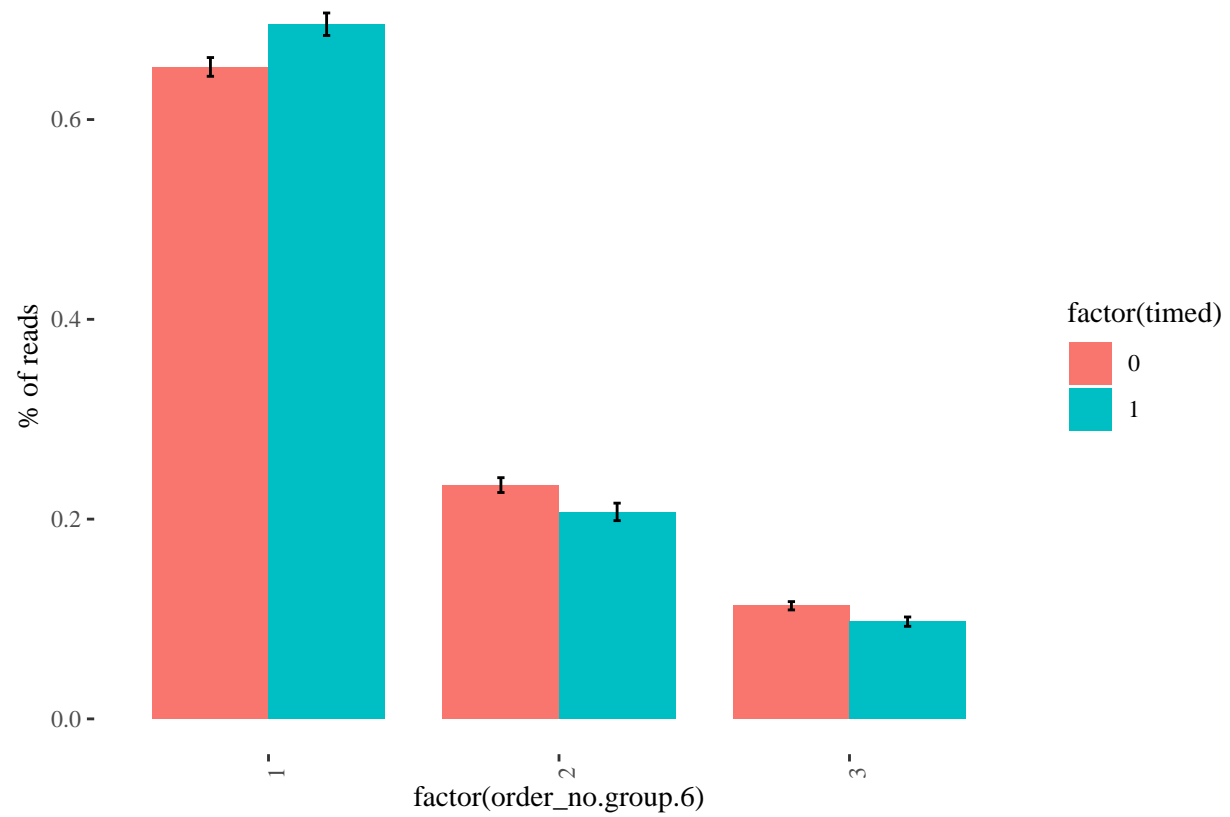
```
## `summarise()` regrouping output by 'timed', 'group.combo' (override with `.groups` argument)
```



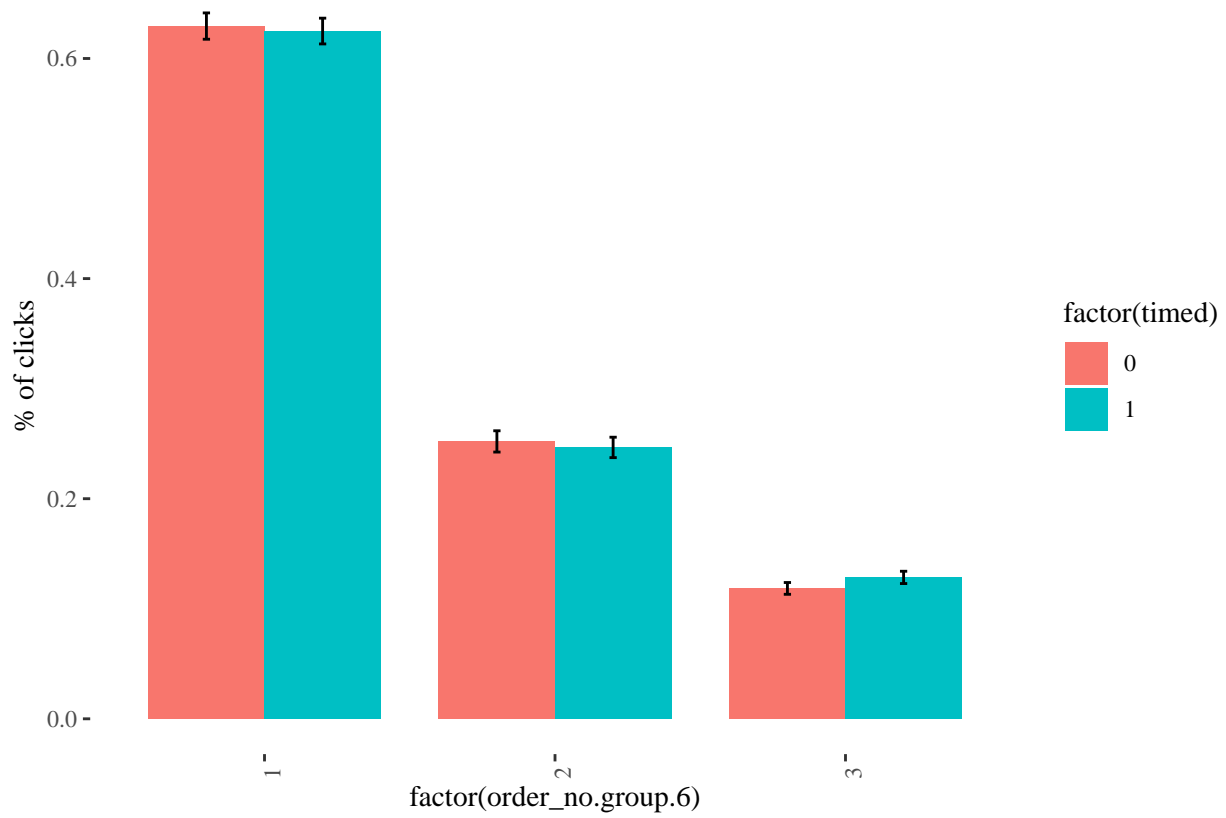
`summarise()` regrouping output by 'timed' (override with `\.groups` argument)



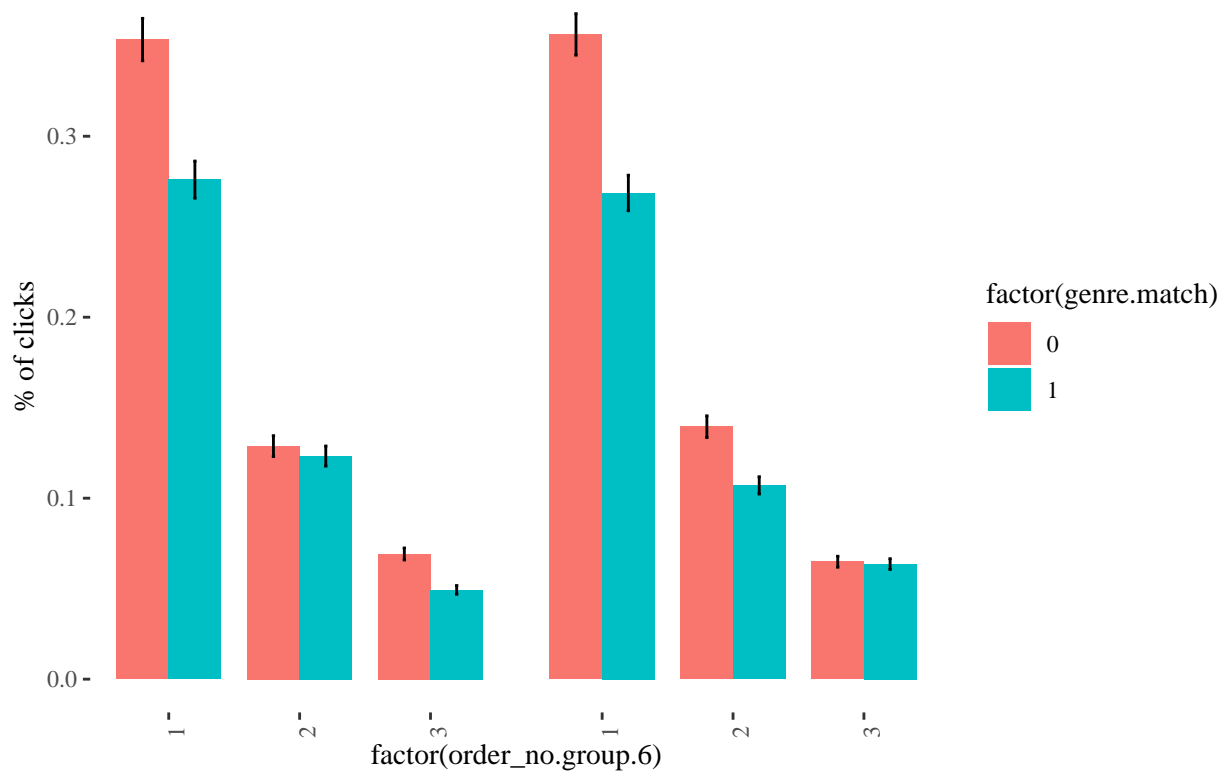
```
## `summarise()` regrouping output by 'timed' (override with `.groups` argument)
```



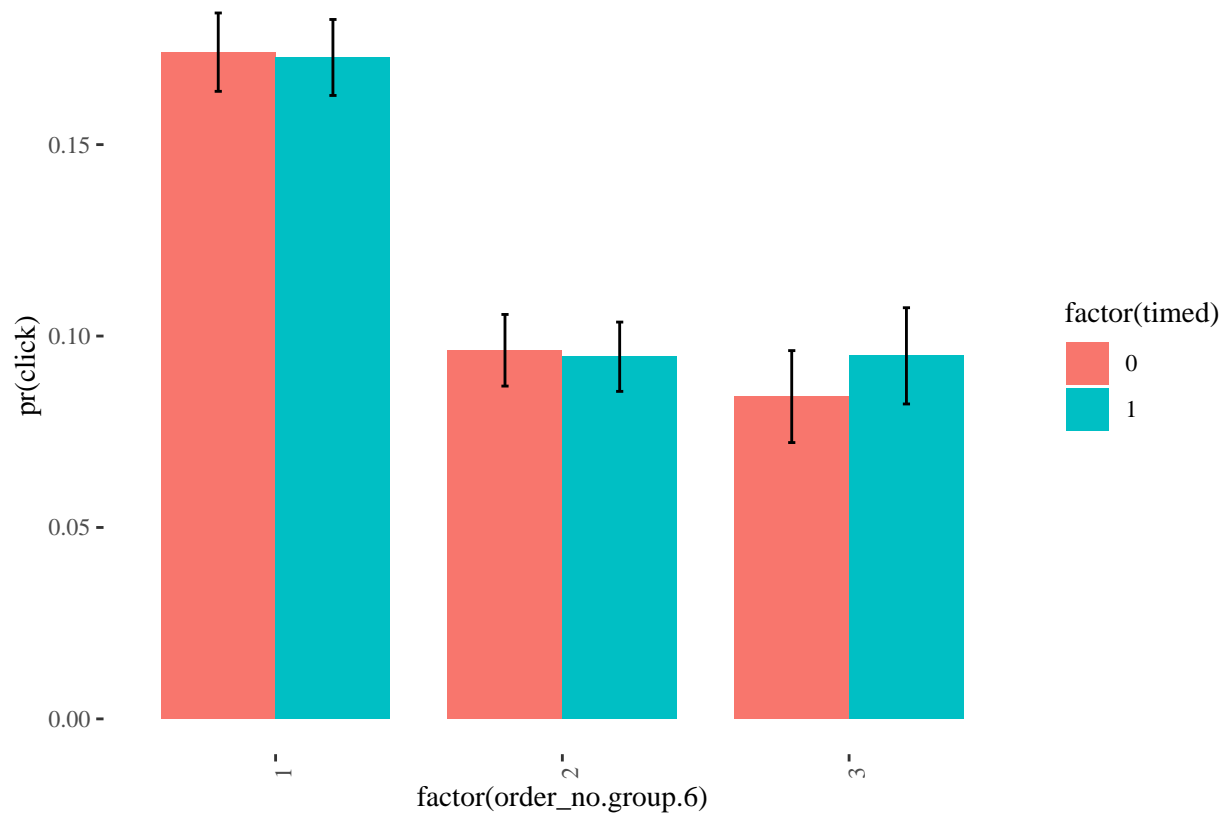
```
## `summarise()` regrouping output by 'timed' (override with `.groups` argument)
```



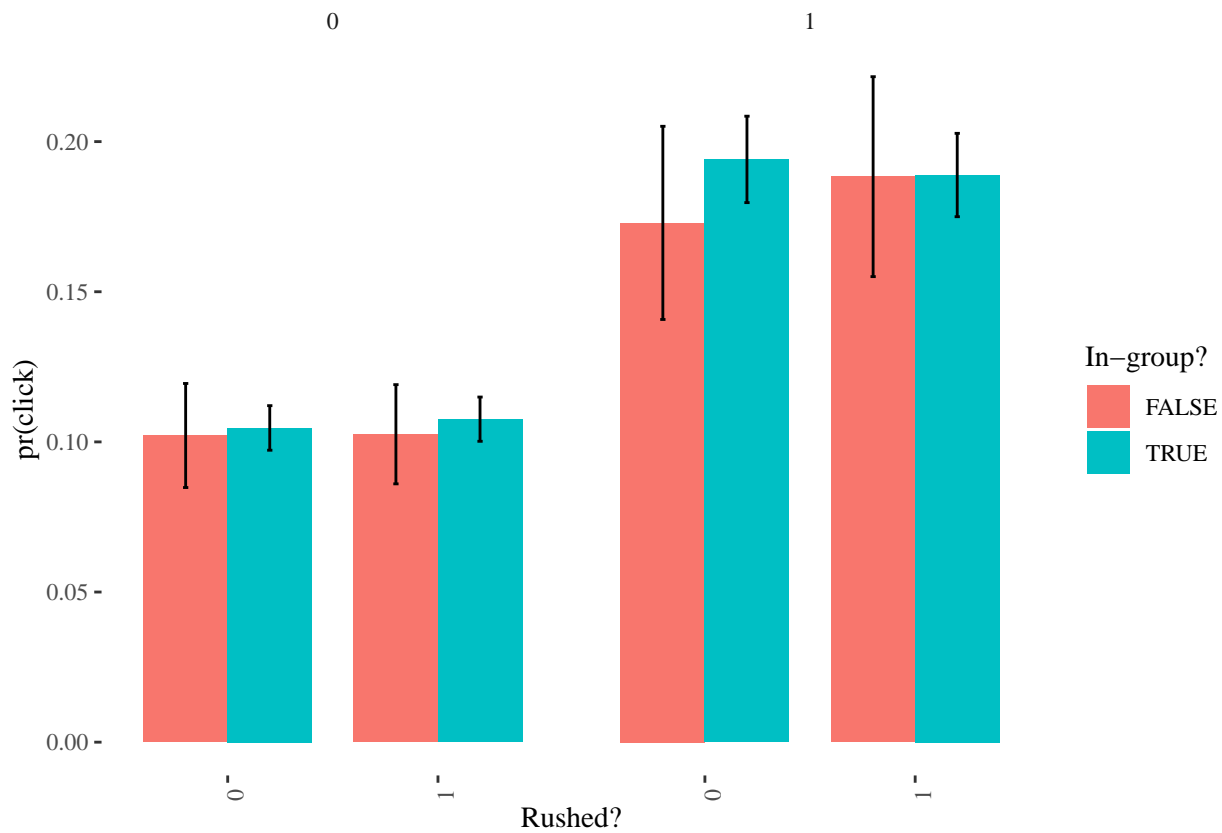
`summarise()` regrouping output by 'timed', 'order_no.group.6' (override with `.groups` argument)



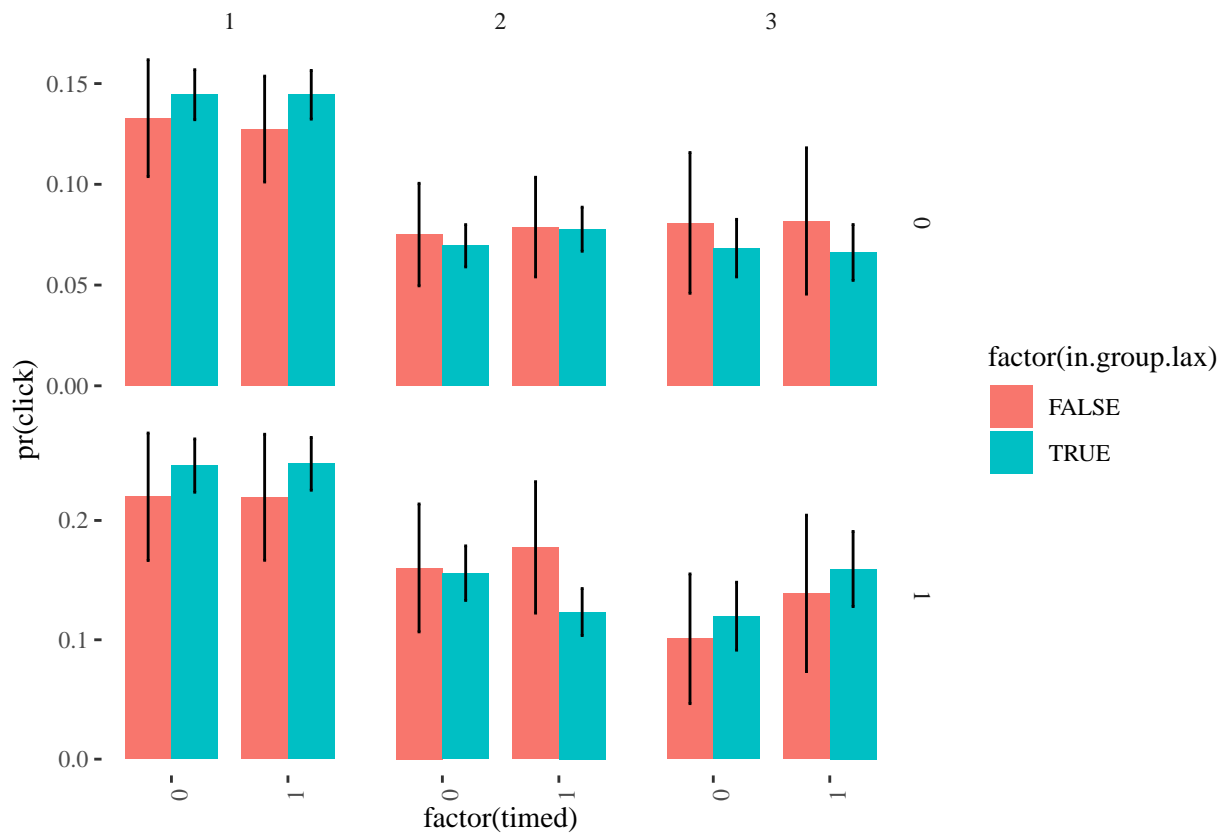
```
## `summarise()` regrouping output by 'timed' (override with `.groups` argument)
```



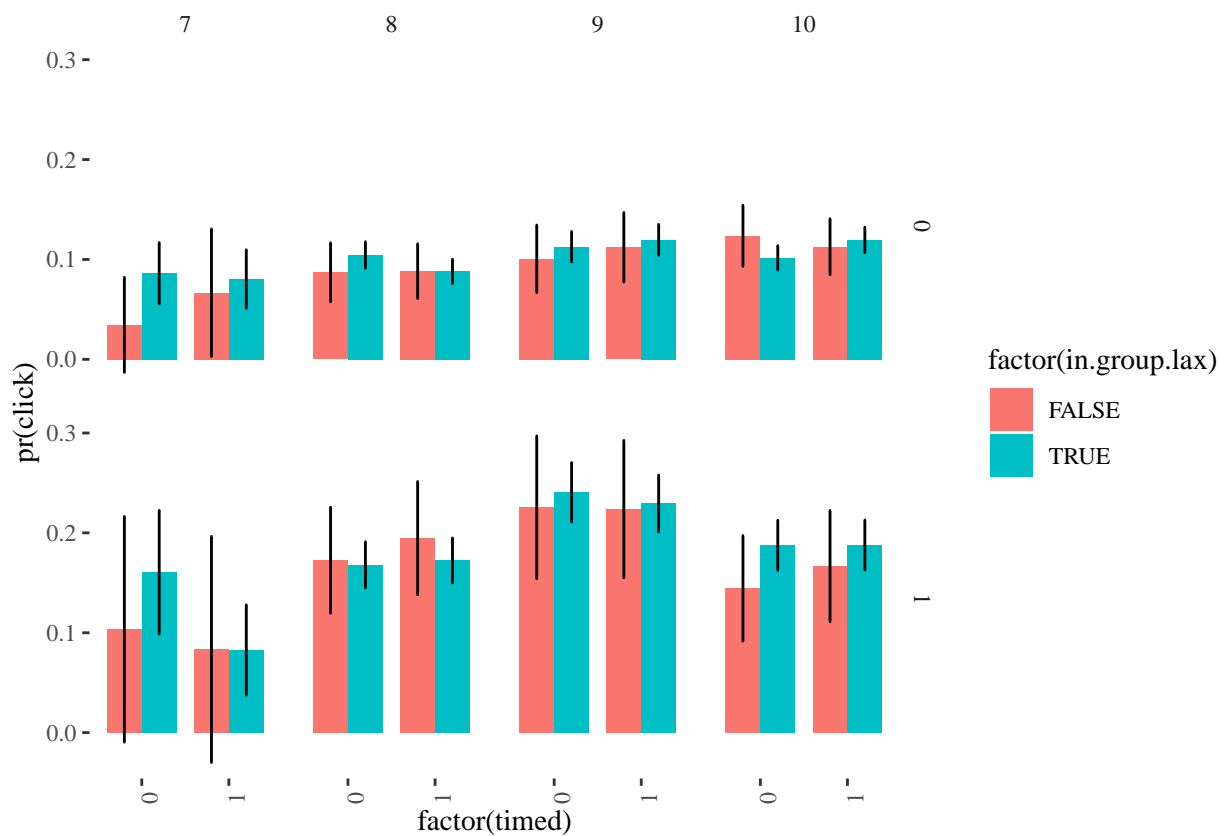
```
## `summarise()` regrouping output by 'timed', 'in.group.lax' (override with `.groups` argument)
```

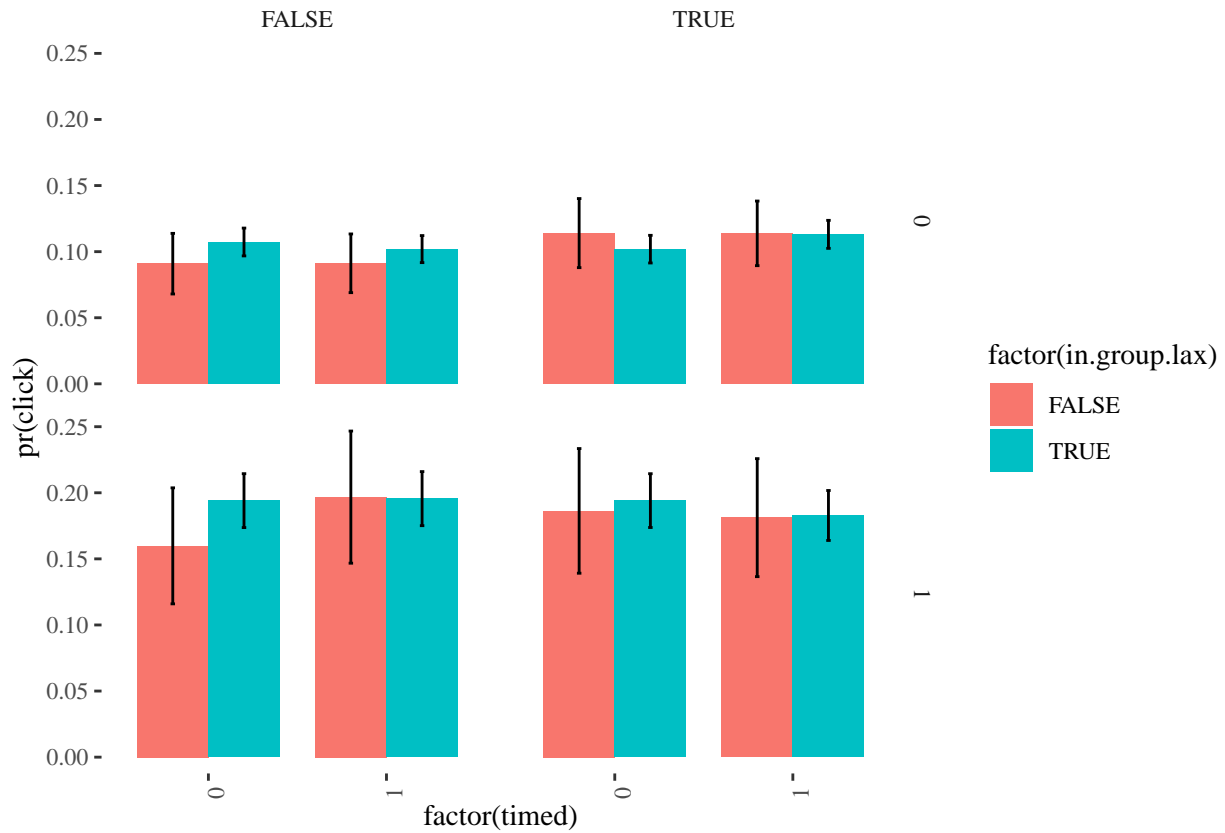
`summarise()` regrouping output by 'timed', 'in.group.lax', 'order_no.group.6' (override with `.group`)



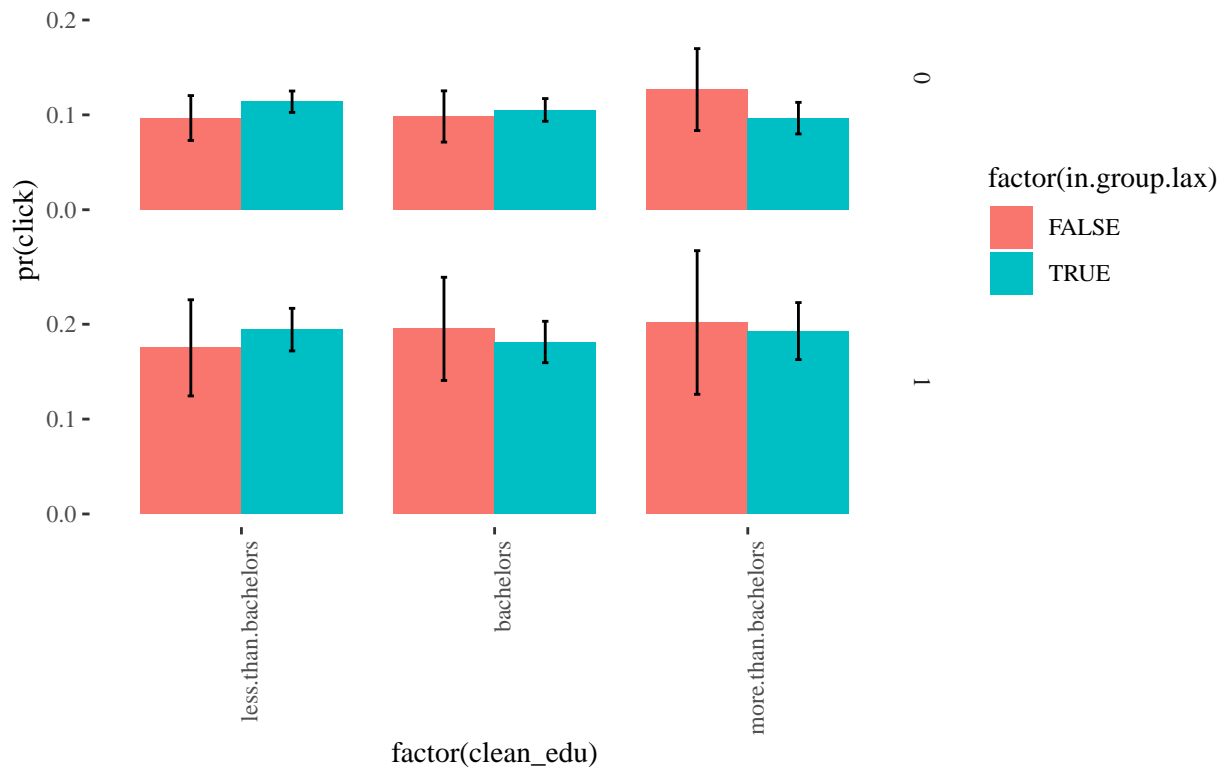
```
## `summarise()` regrouping output by 'timed', 'in.group.lax', 'genre.match' (override with `.groups` a
```



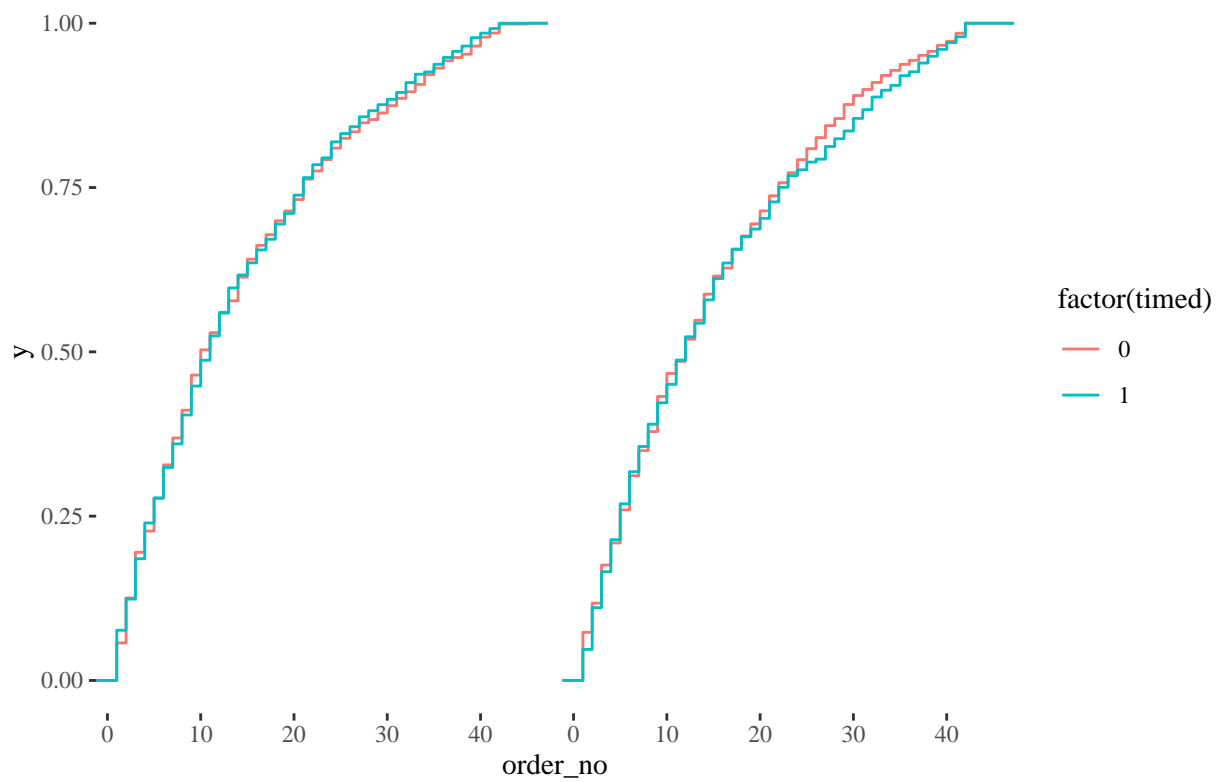
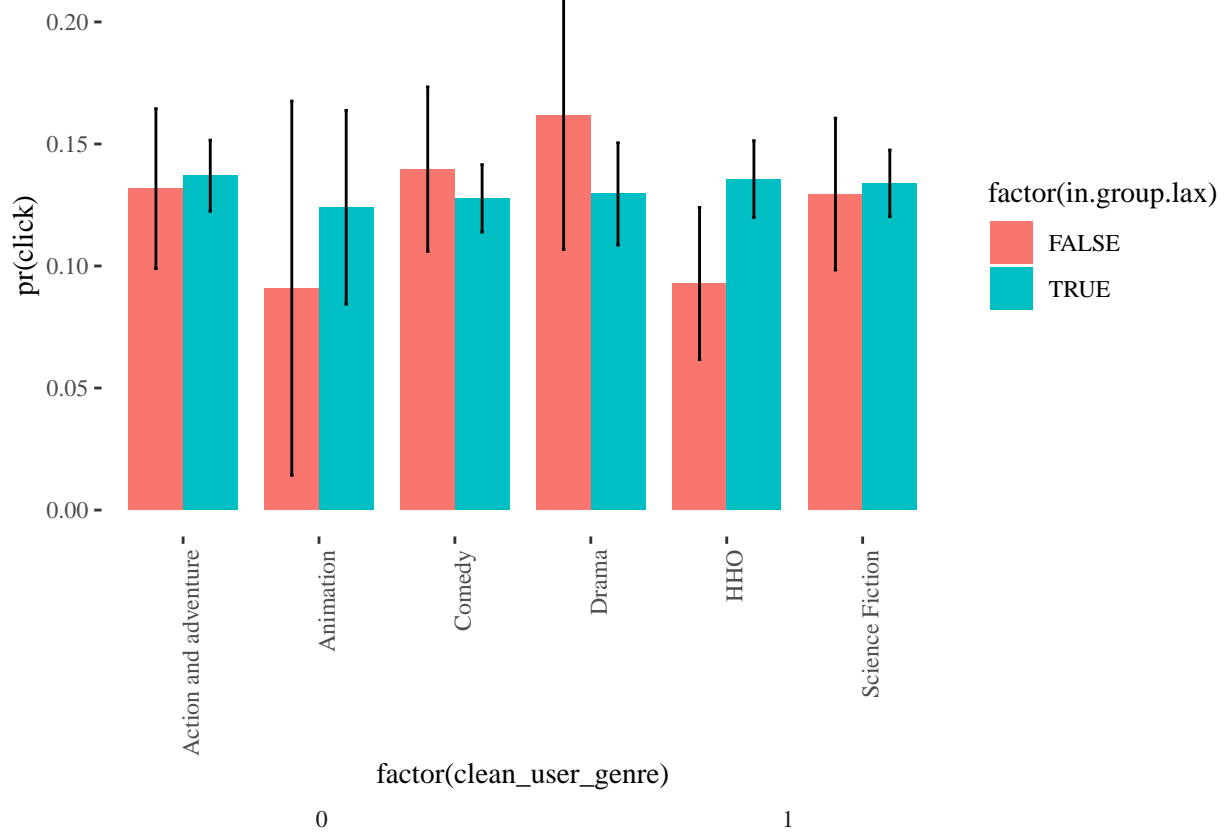
```
## `summarise()` regrouping output by 'timed', 'in.group.lax', 'older.age' (override with `.groups` arg
```



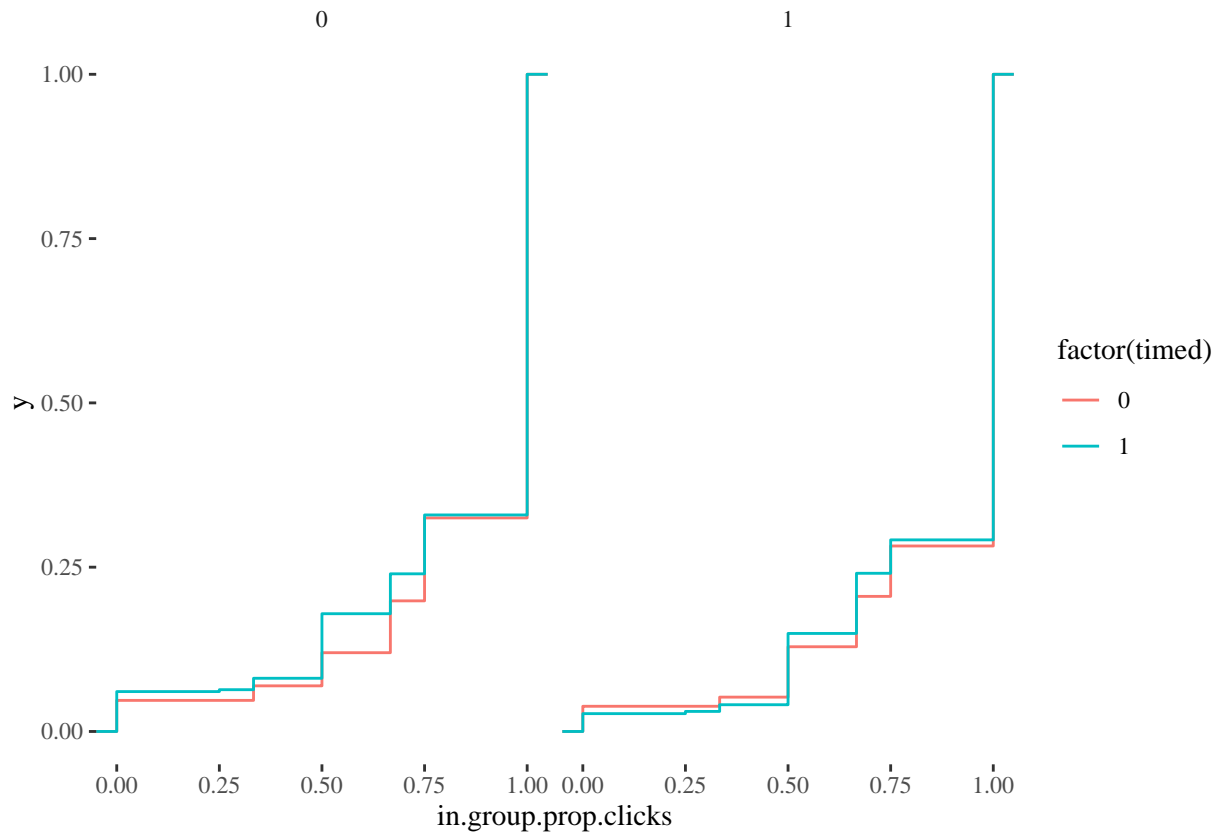
`summarise()` regrouping output by 'in.group.lax', 'genre.match' (override with `.groups` argument)



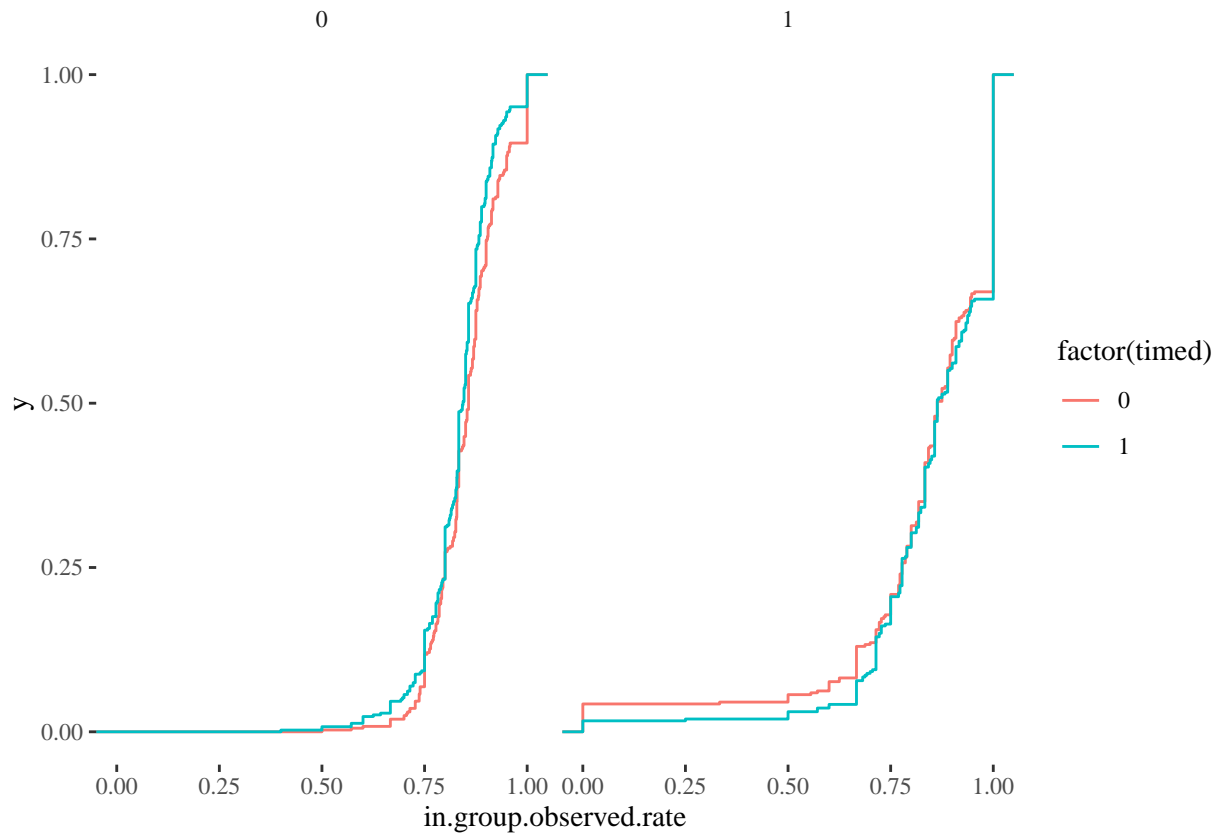
`summarise()` regrouping output by 'in.group.lax' (override with `.groups` argument)

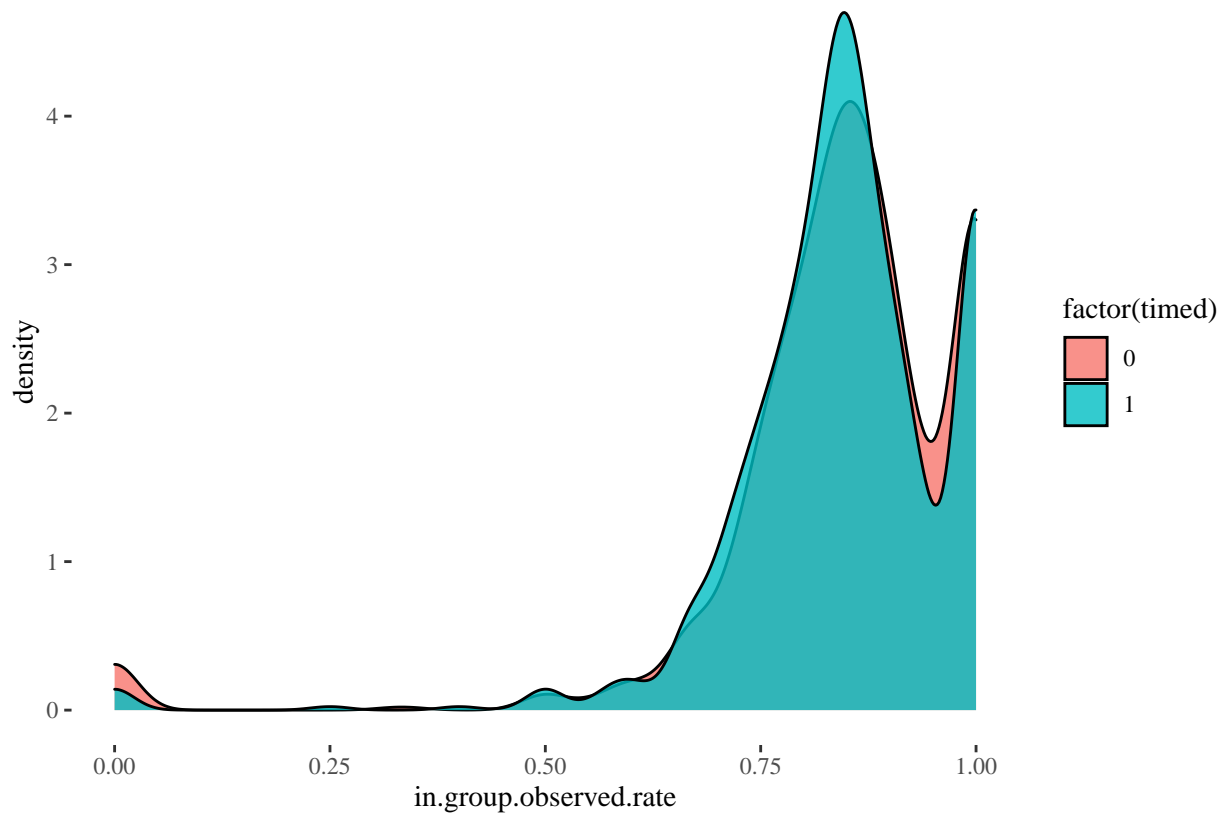


`summarise()` regrouping output by 'user_id', 'timed' (override with `.groups` argument)

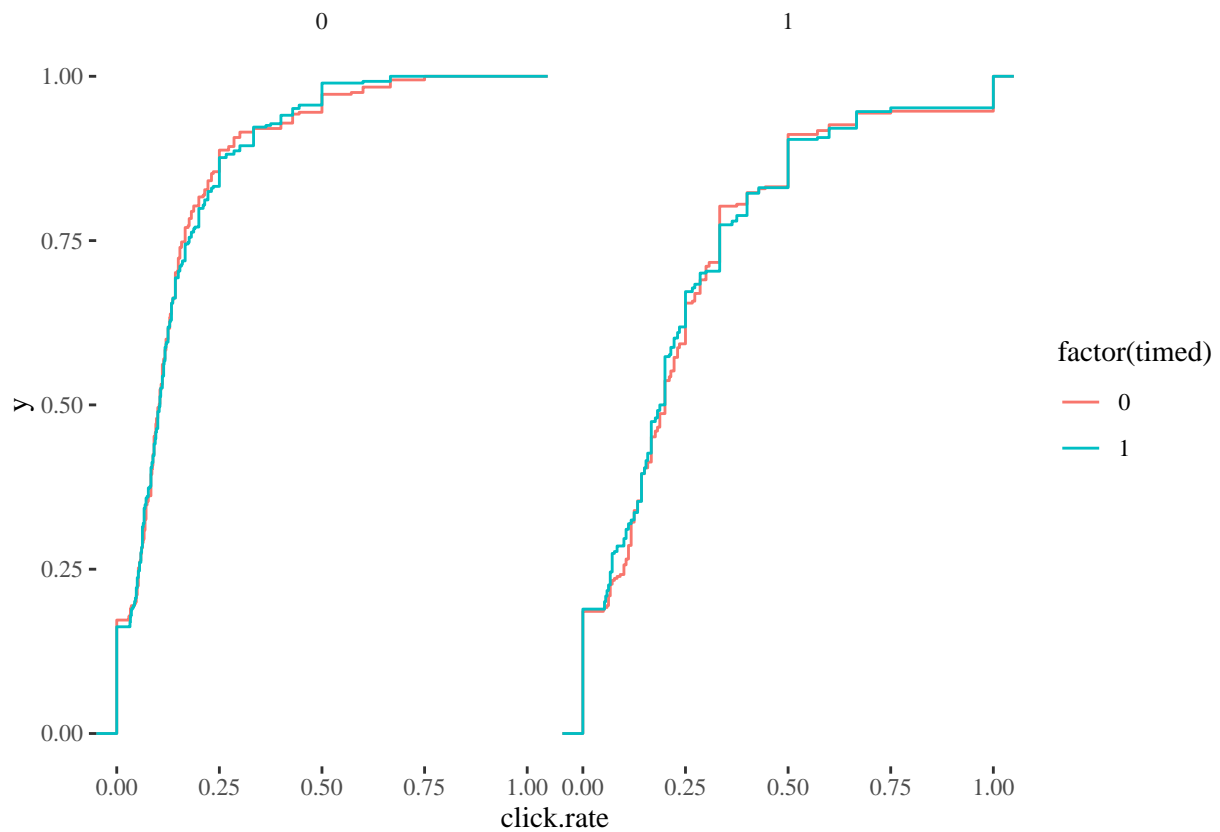


`summarise()` regrouping output by 'user_id', 'timed' (override with `.groups` argument)

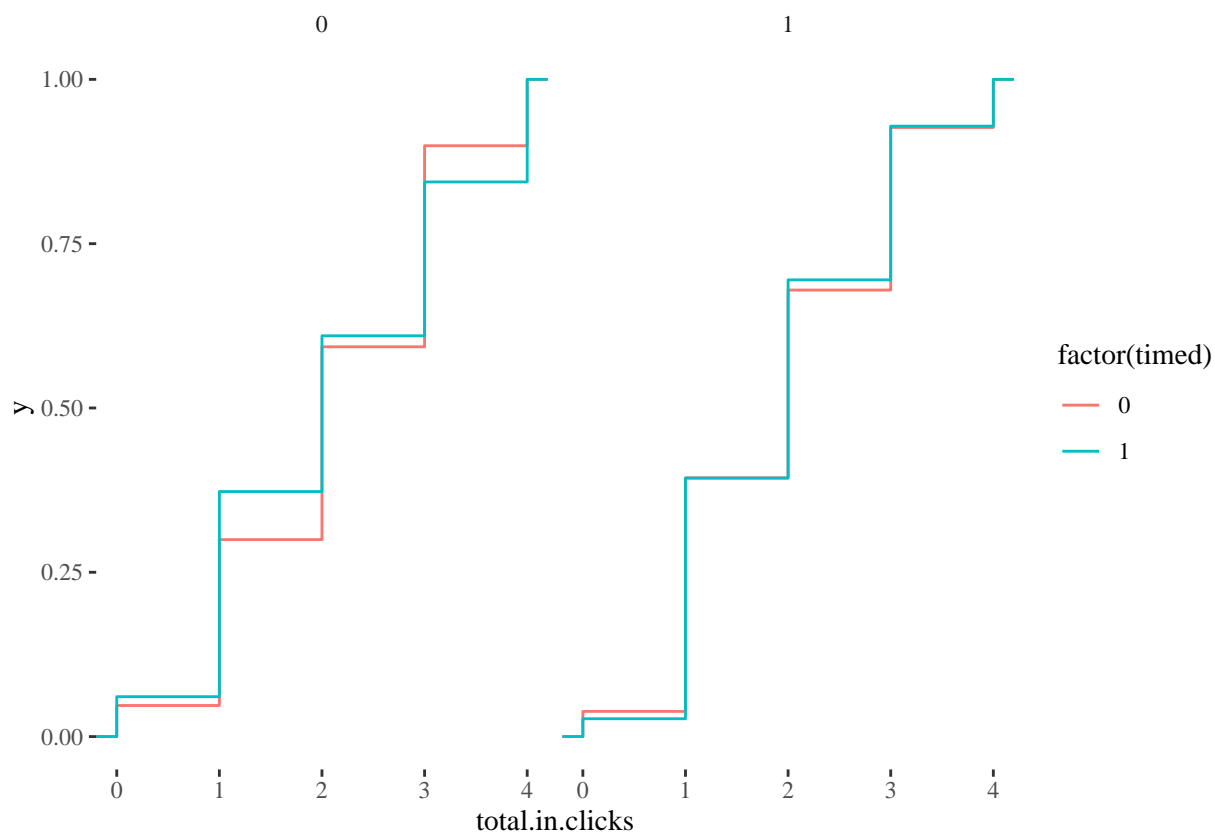




```
## `summarise()` regrouping output by 'user_id', 'timed' (override with `.groups` argument)
```

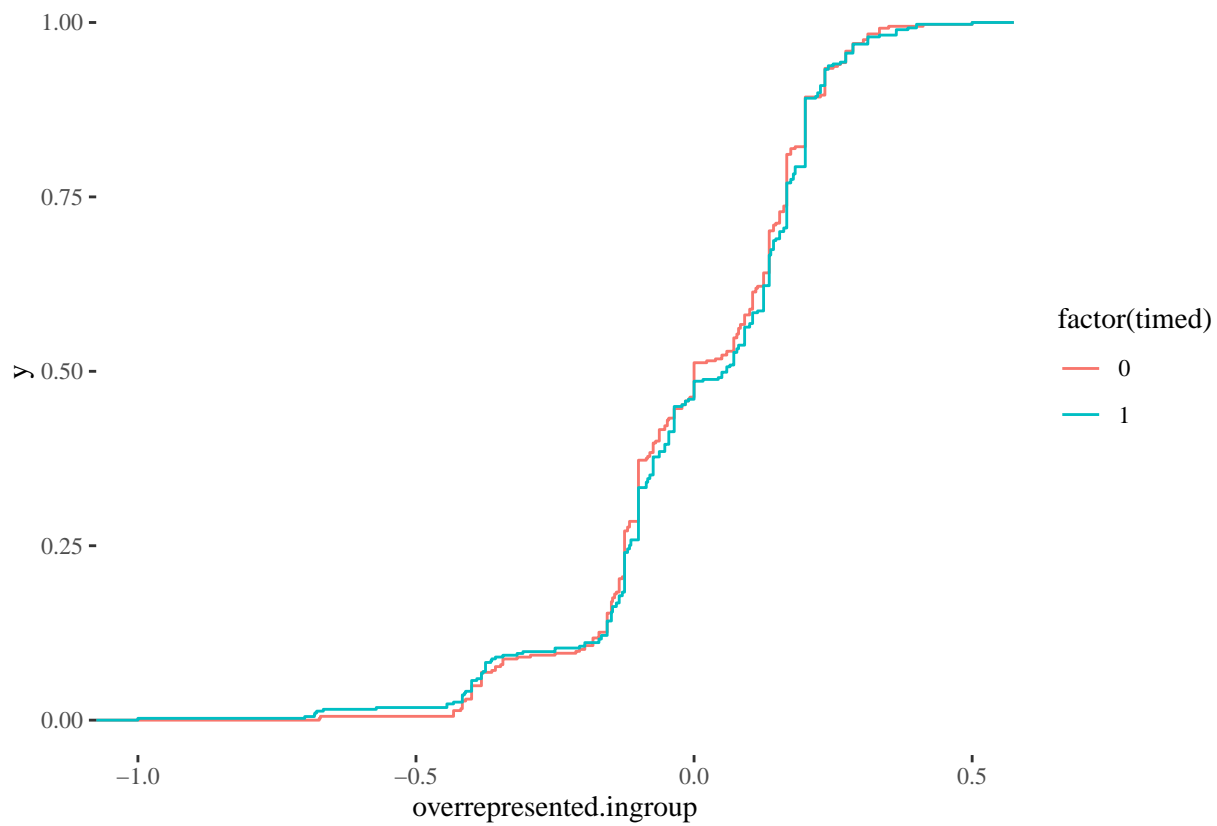


```
## `summarise()` regrouping output by 'user_id', 'timed' (override with `.groups` argument)
```

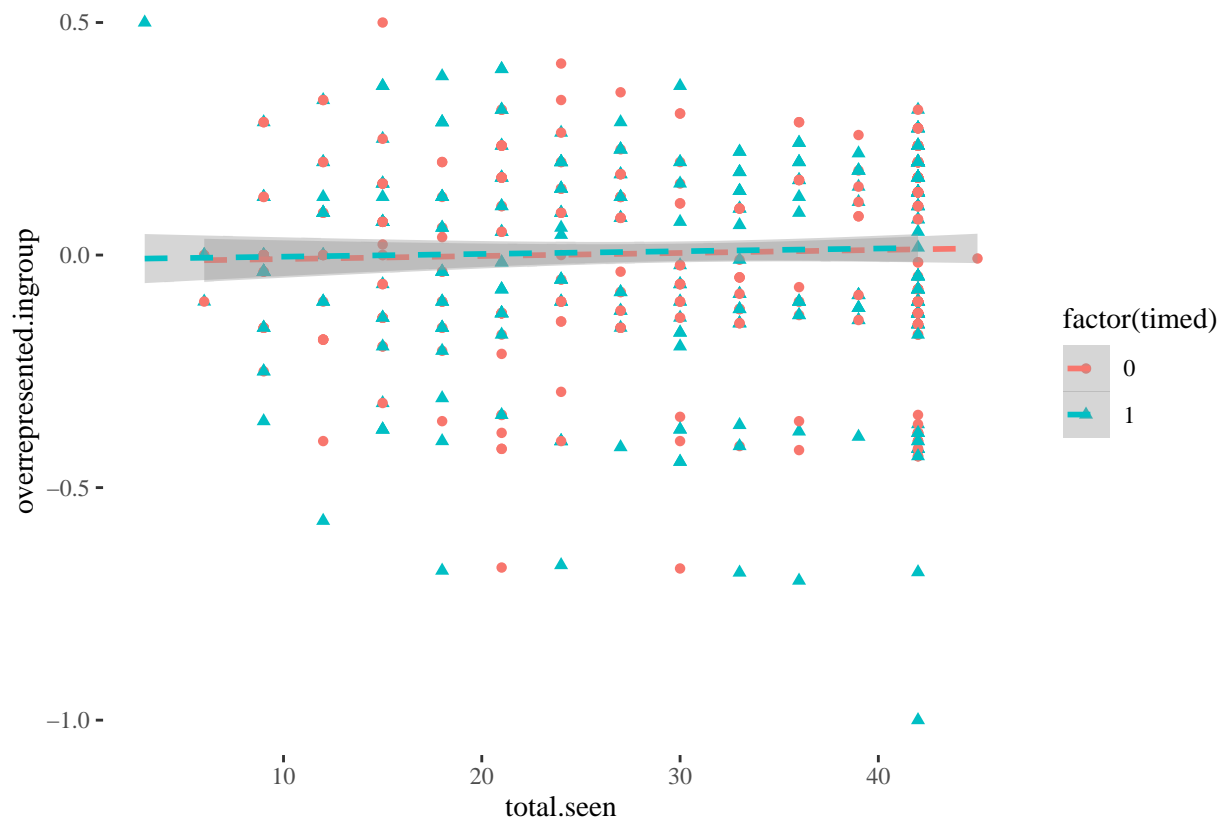


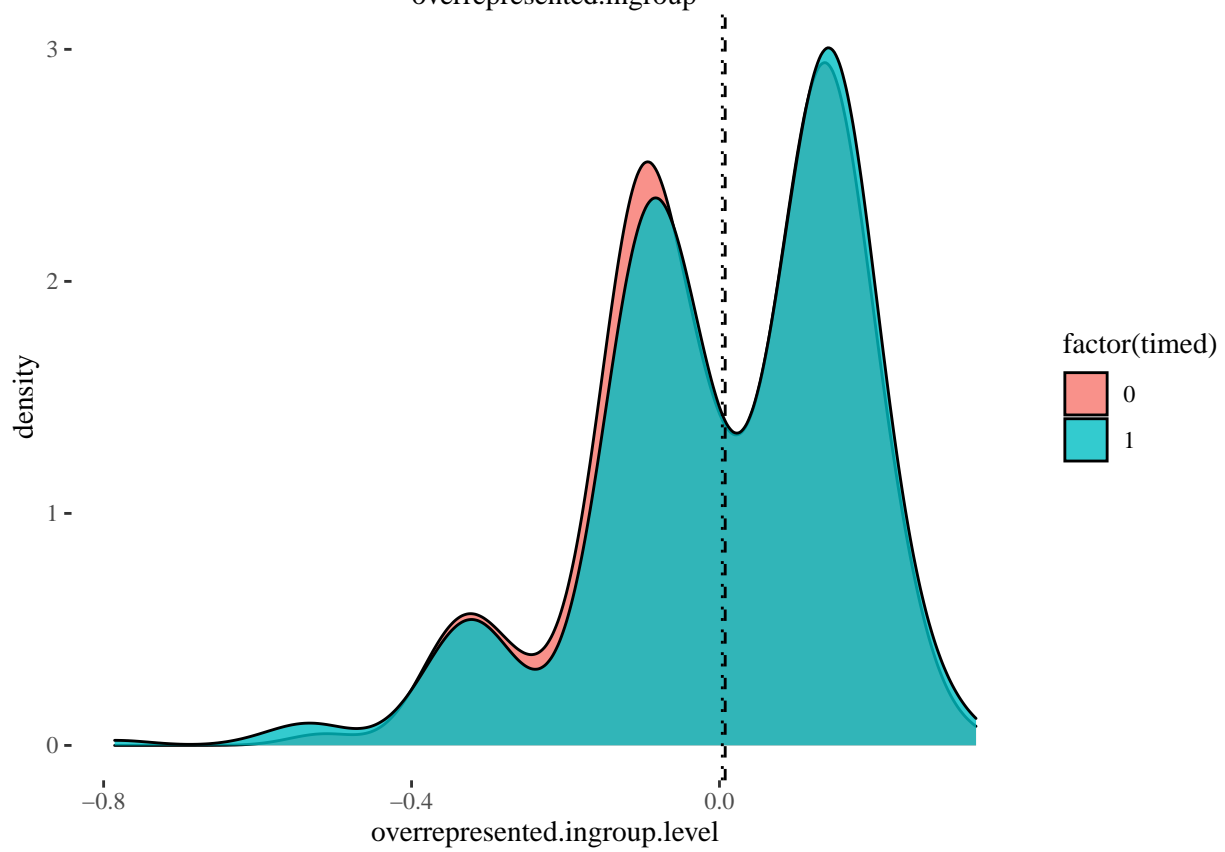
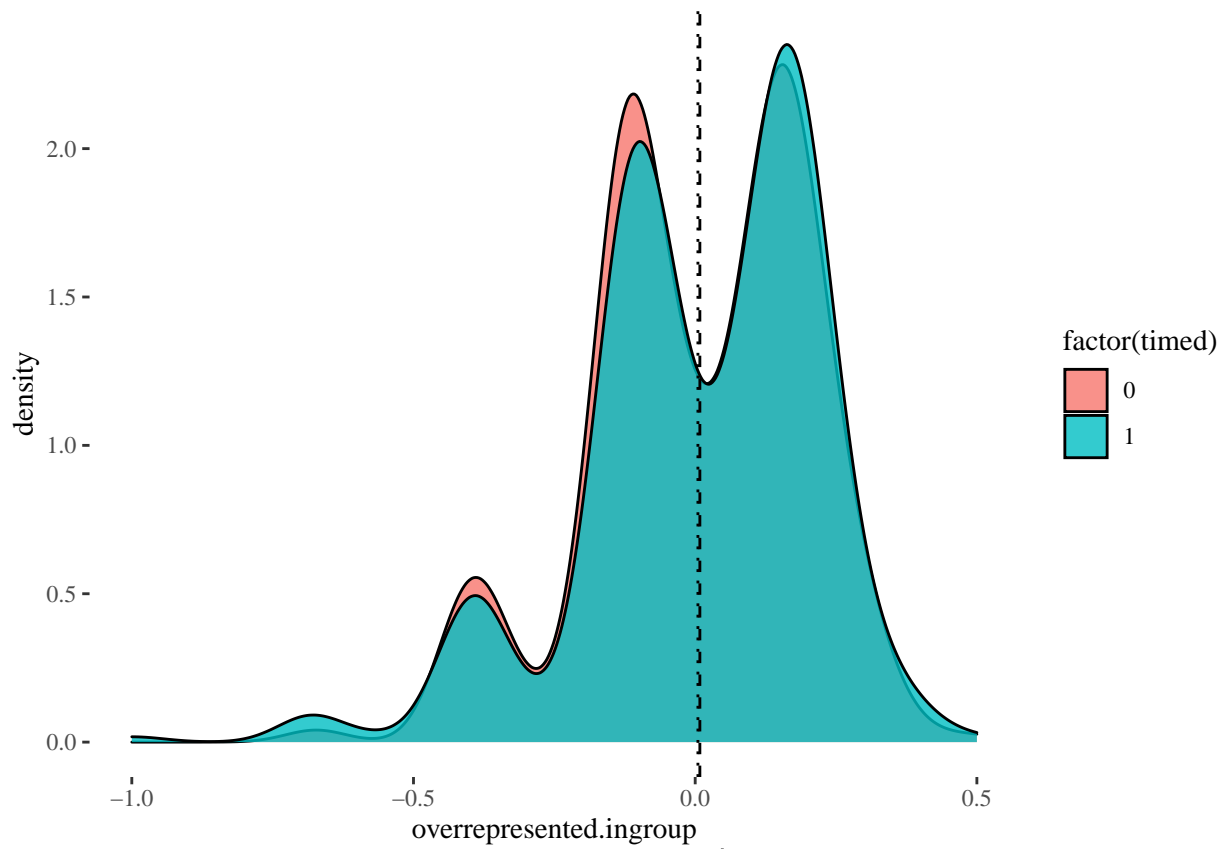
```
## `summarise()` regrouping output by 'user_id' (override with `.groups` argument)
```

```
## `summarise()` regrouping output by 'user_id' (override with `.groups` argument)
```



`geom_smooth()` using formula 'y ~ x'



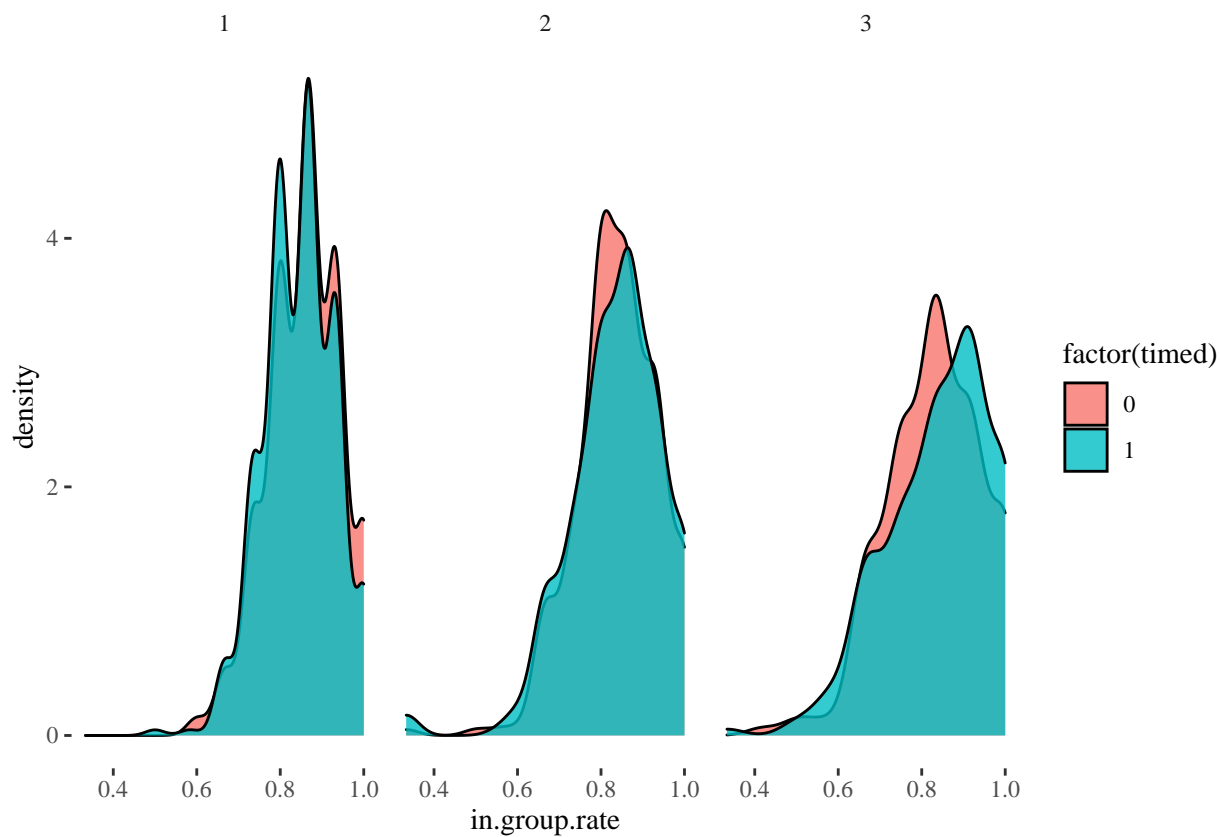


##

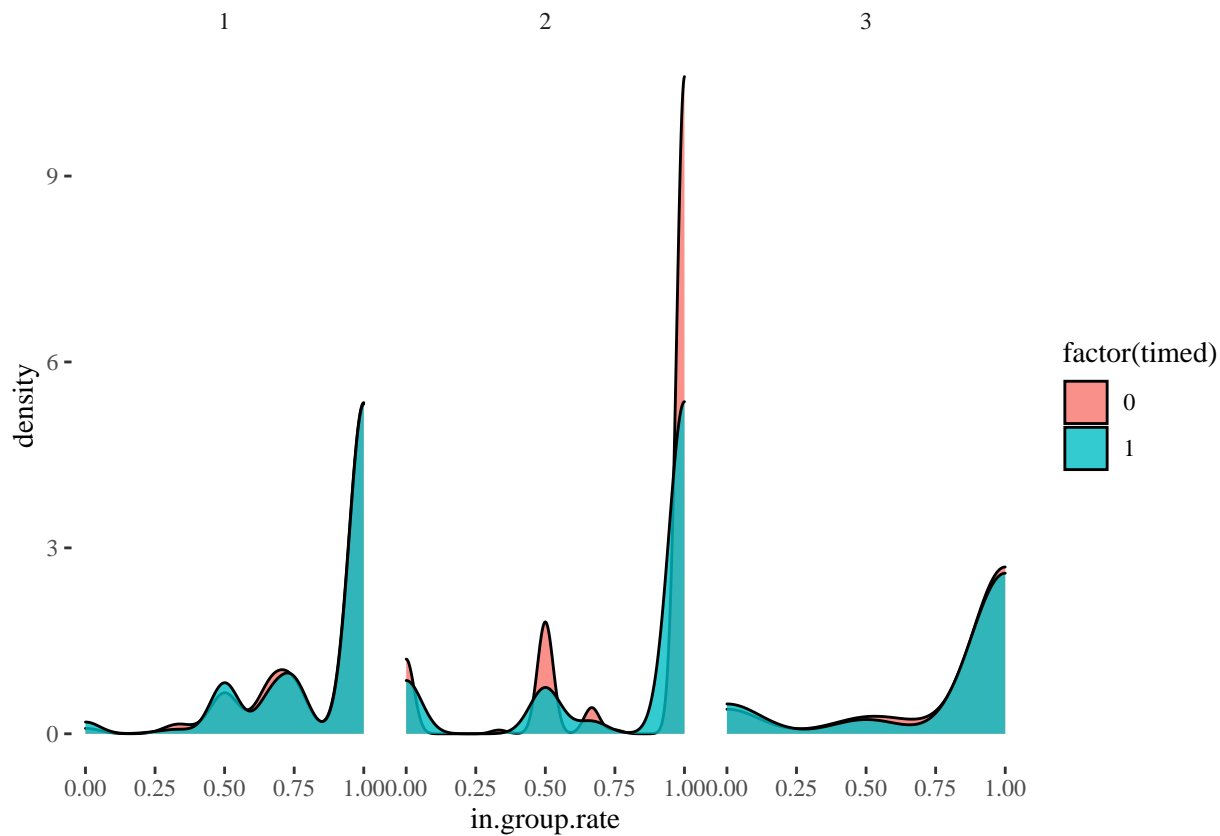
```

## Call:
## lm(formula = in.group.selected ~ timed * in.group.observed, data = l.dat)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.78724 -0.11045  0.01532  0.13384  0.34429
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)      0.06182    0.12571   0.492   0.623
## timed           -0.14271    0.17313  -0.824   0.410
## in.group.observed  0.93173    0.14735   6.323 4.41e-10 ***
## timed:in.group.observed 0.17316    0.20395   0.849   0.396
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.1662 on 748 degrees of freedom
## Multiple R-squared:  0.1196, Adjusted R-squared:  0.116
## F-statistic: 33.86 on 3 and 748 DF, p-value: < 2.2e-16
##
## Call:
## lm(formula = in.group.observed ~ timed, data = l.dat)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.34205 -0.03252  0.00607  0.03295  0.15795
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.851075    0.003119 272.886 <2e-16 ***
## timed       -0.009026    0.004348  -2.076  0.0382 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.05958 on 750 degrees of freedom
## Multiple R-squared:  0.005714, Adjusted R-squared:  0.004389
## F-statistic:  4.31 on 1 and 750 DF, p-value: 0.03822
## `summarise()` regrouping output by 'user_id', 'timed' (override with `.groups` argument)

```



`summarise()` regrouping output by 'user_id', 'timed' (override with `.groups` argument)



readmore_presses

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
 % Date and time: Thu, Jan 27, 2022 - 08:35:03

Table 2:

	<i>Dependent variable:</i>	
	clicked	
	Slow (1)	Fast (2)
rec_genderMale	0.007 (0.009)	0.004 (0.009)
rec_raceBlack	-0.010 (0.018)	-0.006 (0.018)
rec_raceHispanic	-0.005 (0.012)	-0.004 (0.012)
rec_genderMale:rec_raceBlack	-0.0002 (0.021)	0.004 (0.021)
rec_genderMale:rec_raceHispanic	-0.013 (0.016)	-0.008 (0.016)
Constant	0.130*** (0.007)	0.132*** (0.007)
Observations	11,154	11,679
R ²	0.0004	0.0002
Adjusted R ²	-0.0001	-0.0003

Note:

*p<0.1; **p<0.05; ***p<0.01

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
 % Date and time: Thu, Jan 27, 2022 - 08:35:04

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
 % Date and time: Thu, Jan 27, 2022 - 08:35:04

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
 % Date and time: Thu, Jan 27, 2022 - 08:35:04

```
user.dta %>% group_by(test_timed) %>% summarise(mean(as.numeric(feedback_relay), na.rm = T))
```

```
user.dta %>% group_by(test_timed) %>% summarise(mean(as.numeric(feedback_satisfied), na.rm = T))
```

```
## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !
## = : The response has five or fewer unique values. Are you sure you want to do
## regression?
```

```
## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?
```

Table 3:

	<i>Dependent variable:</i>			
	clicked			
	Slow	Slow	Fast	Fast
	(1)	(2)	(3)	(4)
Same Race	0.006 (0.011)	0.007 (0.011)	0.004 (0.011)	0.002 (0.011)
Same Gender	-0.001 (0.011)	-0.001 (0.011)	0.001 (0.010)	0.0005 (0.010)
Preferred Genre		0.087*** (0.007)		0.082*** (0.007)
Same Race x Same Gender	0.008 (0.014)	0.007 (0.014)	0.003 (0.014)	0.004 (0.013)
Constant	0.124*** (0.008)	0.097*** (0.008)	0.127*** (0.008)	0.104*** (0.008)
Observations	11,154	11,154	11,679	11,679
R ²	0.0003	0.014	0.0001	0.013
Adjusted R ²	0.0001	0.014	-0.0002	0.012
<i>Note:</i>		*p<0.1; **p<0.05; ***p<0.01		

Table 4:

	<i>Dependent variable:</i>	
	clicked	
	Slow	Fast
	(1)	(2)
Same Race	0.011* (0.007)	0.006 (0.007)
Same Gender	0.004 (0.007)	0.002 (0.007)
Constant	0.121*** (0.007)	0.126*** (0.006)
Observations	11,154	11,679
R ²	0.0003	0.0001
Adjusted R ²	0.0001	-0.0001
<i>Note:</i>		*p<0.1; **p<0.05; ***p<0.01

Table 5:

	<i>Dependent variable:</i>			
	Same Race	Same Gender	clicked Race or Gender	Race and Gender
	(1)	(2)	(3)	(4)
in.group	0.012* (0.007)			
same.gender		0.005 (0.007)		
in.group.lax			0.008 (0.009)	
in.group.strict				0.012* (0.006)
timed	0.004 (0.007)	0.002 (0.008)	0.003 (0.011)	0.003 (0.006)
in.groupTRUE:timed	-0.005 (0.009)			
same.genderTRUE:timed		-0.002 (0.009)		
in.group.laxTRUE:timed			-0.003 (0.012)	
in.group.strictTRUE:timed				-0.005 (0.009)
Constant	0.123*** (0.005)	0.128*** (0.005)	0.124*** (0.008)	0.126*** (0.004)
Observations	22,833	22,833	22,833	22,833
R ²	0.0002	0.00004	0.0001	0.0002
Adjusted R ²	0.0001	-0.0001	-0.0001	0.0001

Note:

*p<0.1; **p<0.05; ***p<0.01

```
## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !=
## = : The response has five or fewer unique values. Are you sure you want to do
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## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
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## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

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## regression?

## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !=
## = : The response has five or fewer unique values. Are you sure you want to do
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```
## = : The response has five or fewer unique values. Are you sure you want to do
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## = : The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
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## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
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## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !=
## = : The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?
```



```

## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !
## = : The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

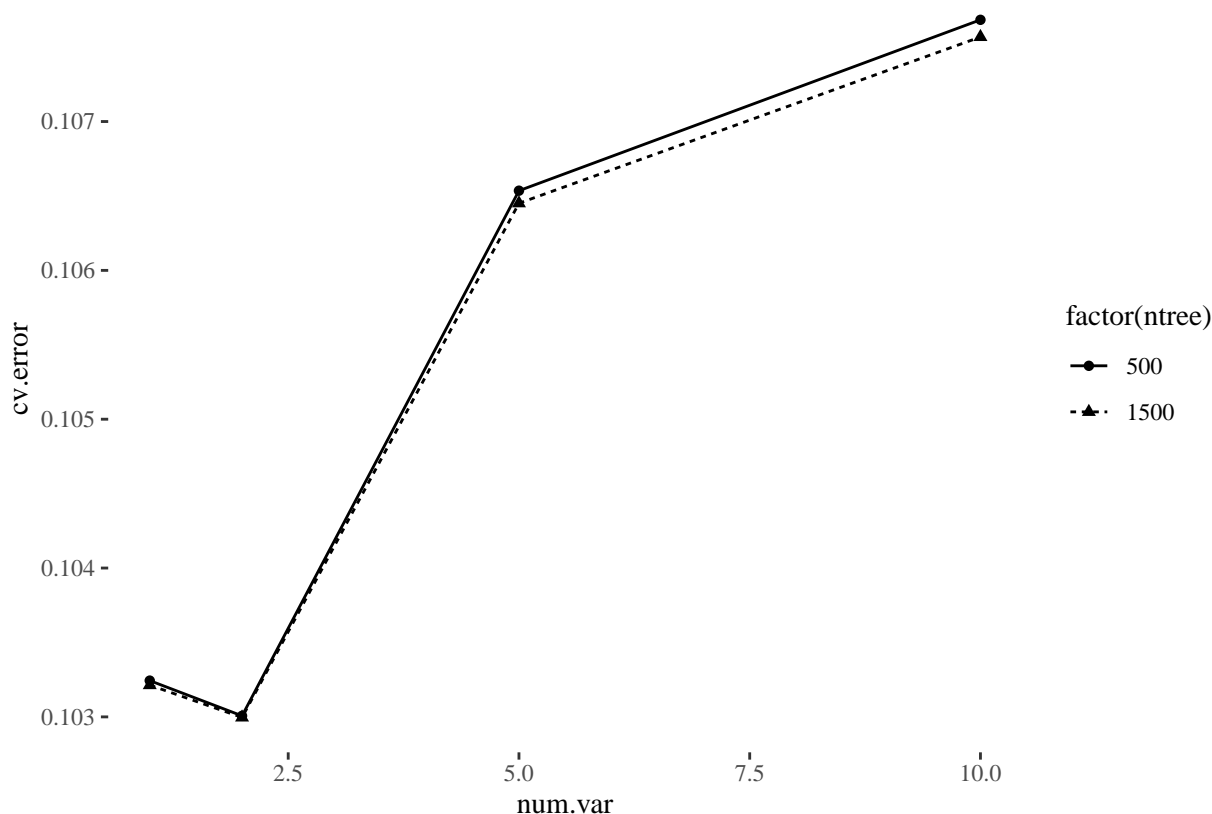
## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !
## = : The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !
## = : The response has five or fewer unique values. Are you sure you want to do
## regression?

```



```
## Warning in randomForest.default(m, y, ...): The response has five or fewer
## unique values. Are you sure you want to do regression?

## `summarise()` ungrouping output (override with `.groups` argument)
## `summarise()` ungrouping output (override with `.groups` argument)

## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !=
## i, , drop = FALSE]): The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
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## regression?

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## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !=
## i, , drop = FALSE]): The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?
```



```
## regression?
## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
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## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !=
## = : The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
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## = : The response has five or fewer unique values. Are you sure you want to do
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## The response has five or fewer unique values. Are you sure you want to do
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## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?
```

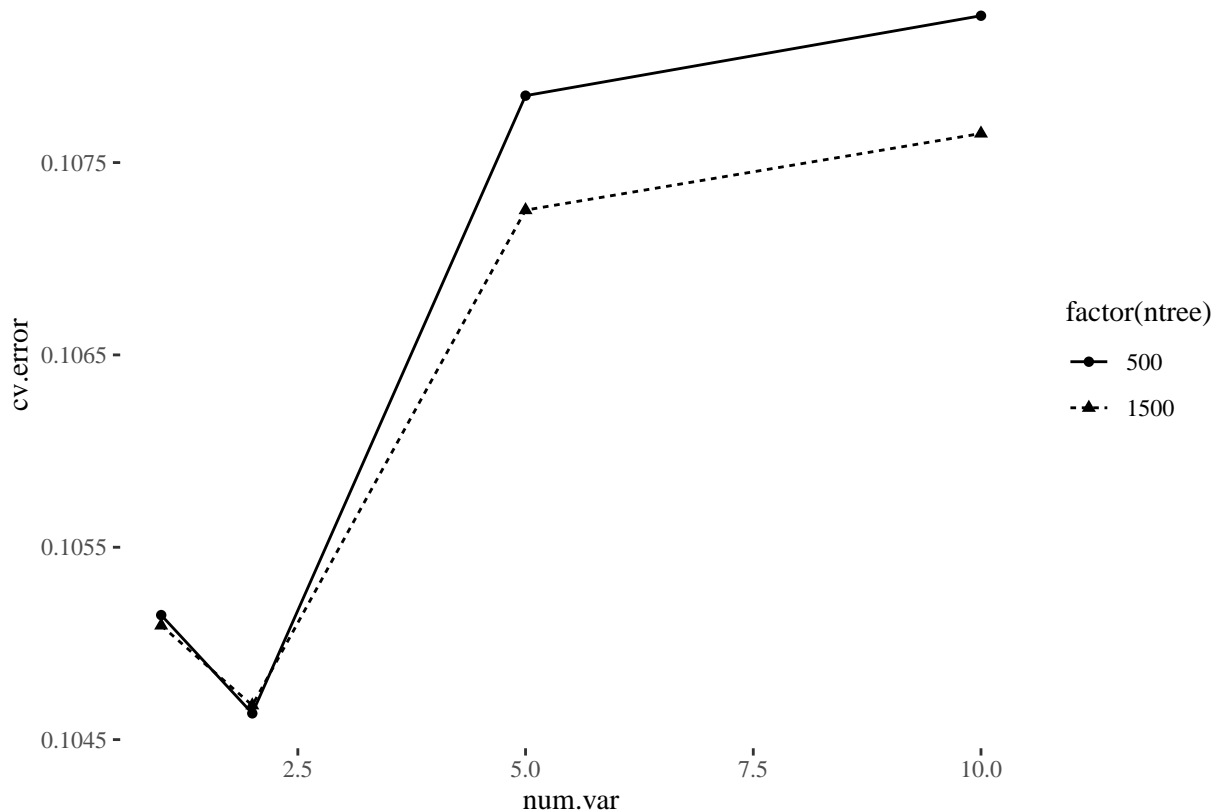
```
## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, , drop = FALSE], trainy[idx !=
## : The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

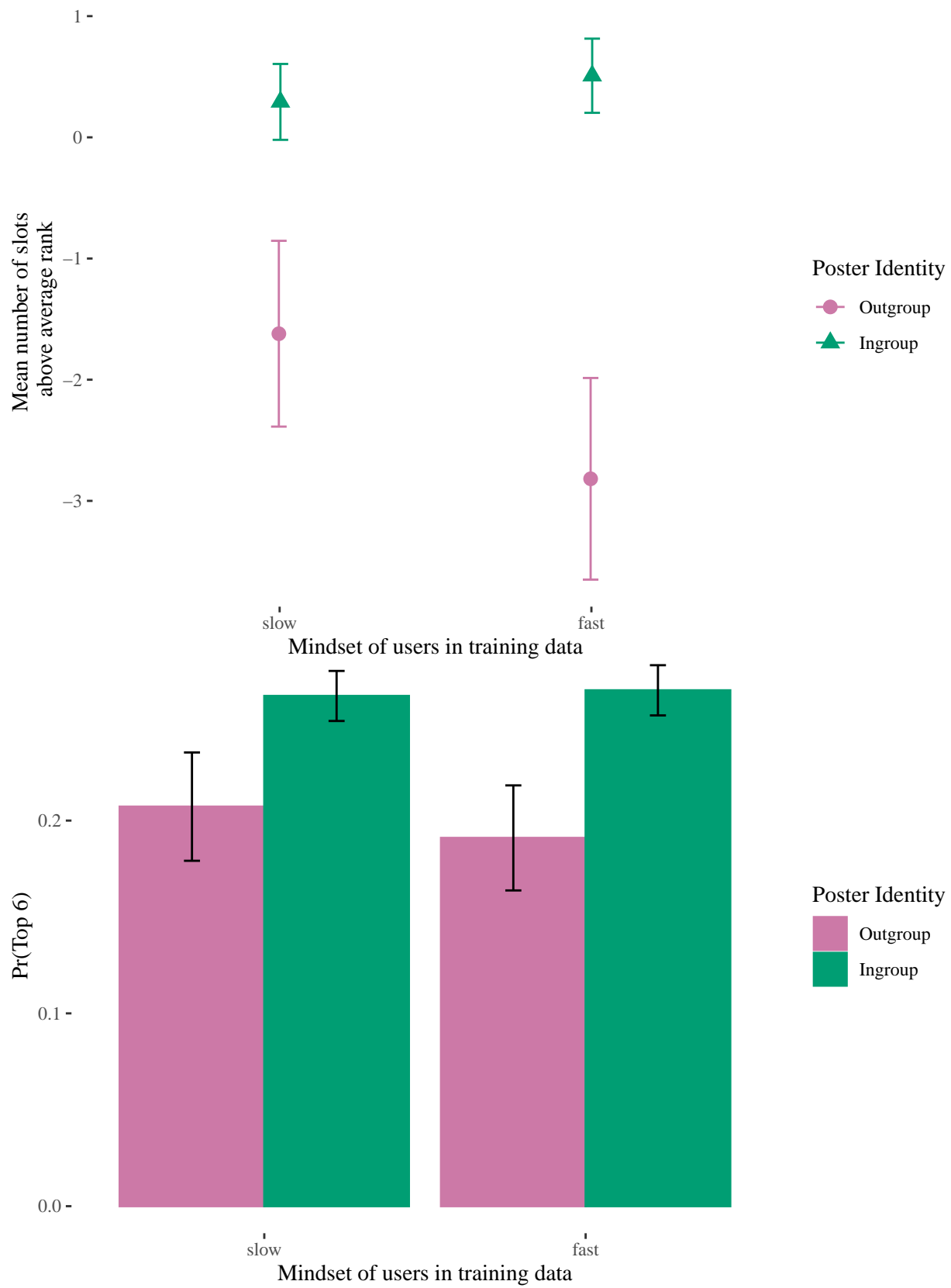
## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?

## Warning in randomForest.default(trainx[idx != i, imp.idx, drop = FALSE], :
## The response has five or fewer unique values. Are you sure you want to do
## regression?
```



```
## Warning in randomForest.default(m, y, ...): The response has five or fewer
## unique values. Are you sure you want to do regression?

## `summarise()` ungrouping output (override with `.groups` argument)
## `summarise()` ungrouping output (override with `.groups` argument)
```



% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu

% Date and time: Thu, Jan 27, 2022 - 09:04:59

Table 6:

	<i>Dependent variable:</i>		
	rank (1)	top (2)	rank (3)
in.group.lax	-3.326*** (0.410)	0.077*** (0.017)	-3.020*** (0.362)
psychslow	-1.197** (0.534)	0.016 (0.022)	-1.197** (0.471)
genre.match			-11.049*** (0.201)
in.group.laxTRUE:psychslow	1.413** (0.580)	-0.019 (0.024)	1.413*** (0.512)
Constant	17.998*** (0.378)	0.191*** (0.015)	21.018*** (0.337)
Genre match controls?			X
Observations	10,482	10,482	10,482
R ²	0.008	0.003	0.229
Adjusted R ²	0.008	0.003	0.229
Residual Std. Error	10.689 (df = 10478)	0.436 (df = 10478)	9.422 (df = 10477)
F Statistic	29.146*** (df = 3; 10478)	10.906*** (df = 3; 10478)	779.915*** (df = 4; 10477)

Note:

*p<0

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
 % Date and time: Thu, Jan 27, 2022 - 09:04:59

```
## IncNodePurity
## user_age      28.234520
## clean_edu      7.018764
## user_frequency 11.939210
## user_genre     16.297571
## genre.match    13.562766
## rating.y       11.548676
## rec_gender      4.688411
## rec_race        8.489879
## race.simple.f   0.000000
## user_gender     0.000000
```

Table 7:

	<i>Dependent variable:</i>	
	rank.fast (1)	top (2)
in.group.lax	5.655 (3.755)	−0.425*** (0.163)
in.group.laxTRUE:user_age	0.004 (0.026)	0.0003 (0.001)
in.group.laxTRUE:clean_edubachelors	−0.314 (0.766)	−0.052 (0.033)
in.group.laxTRUE:clean_edumore.than.bachelors	3.951*** (0.999)	−0.051 (0.043)
in.group.laxTRUE:user_frequencyEvery day	−4.231** (1.950)	0.092 (0.084)
in.group.laxTRUE:user_frequencyNever	1.794 (3.599)	0.049 (0.156)
in.group.laxTRUE:user_frequencyOnce a month	−4.278** (1.909)	0.012 (0.083)
in.group.laxTRUE:user_frequencySeveral times a month	−3.663** (1.441)	0.083 (0.062)
in.group.laxTRUE:user_frequencySeveral times a week	1.135 (1.485)	0.040 (0.064)
in.group.laxTRUE:clean_user_genreAnimation	−0.056 (2.527)	0.058 (0.109)
in.group.laxTRUE:clean_user_genreComedy	1.443 (1.098)	−0.026 (0.048)
in.group.laxTRUE:clean_user_genreDrama	0.427 (1.233)	−0.023 (0.053)
in.group.laxTRUE:clean_user_genreHHO	−4.296*** (1.159)	0.089* (0.050)
in.group.laxTRUE:clean_user_genreScience Fiction	−0.611 (1.061)	−0.033 (0.046)
in.group.laxTRUE:genre.match	2.035** (0.813)	0.050 (0.035)
in.group.laxTRUE:rating.y	−0.114 (0.351)	0.030** (0.015)
in.group.laxTRUE:rec_genderMale		
in.group.laxTRUE:rec_raceBlack	−5.389*** (0.864)	0.166*** (0.037)