

# Associations between loneliness and positive remote interactions: An analysis of students' experiences throughout the COVID-19 pandemic



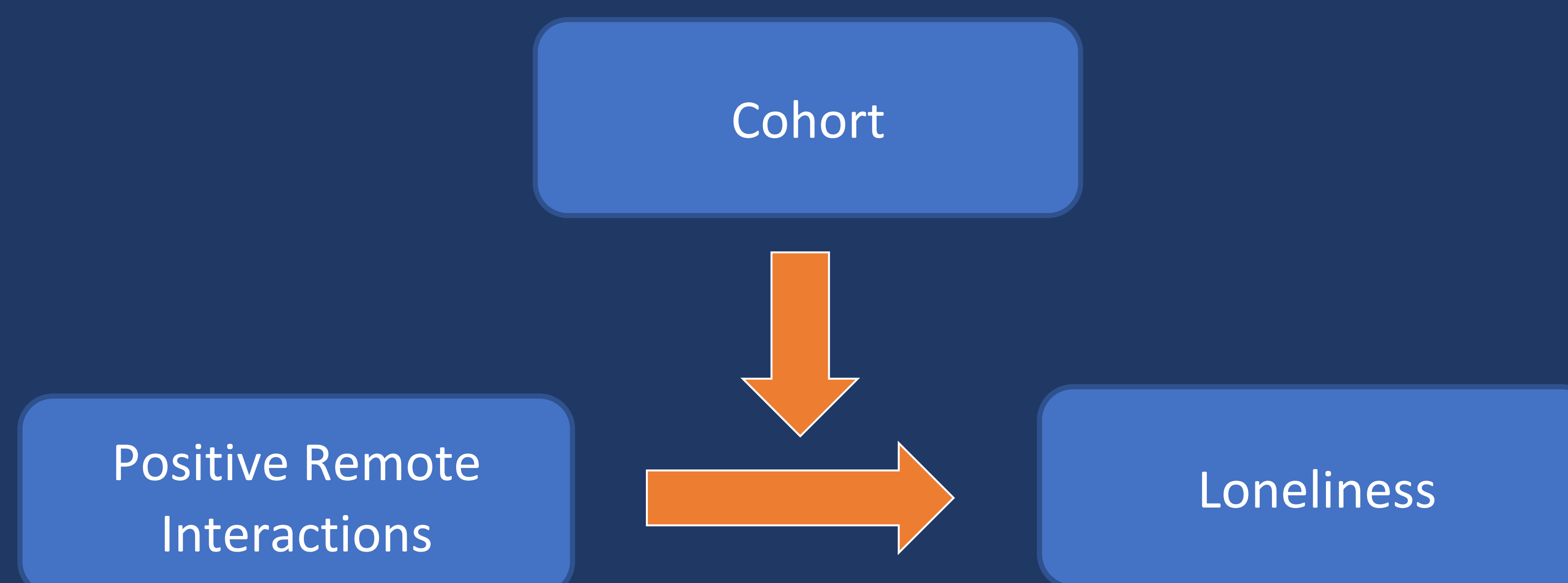
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## Positive remote interactions are associated with less same-day loneliness during the COVID-19 pandemic, except after returning to in-person classes.



$$Loneliness_{ti} = \gamma_{00} + \gamma_{01}PRI_{.i} + \gamma_{10}PRI_{ti} + \gamma_{20}Time_{ti} + \gamma_{30}Weekend_{ti} + \gamma_{02}Gender_{.i} + \gamma_{03}Ethnicity_{.i} + \gamma_{04}StudentStatus_{.i} + \mu_{0i} + \mu_{1i}RPI_{ti} + \epsilon_{ti}$$

Table 1  
Unstandardized Estimates for Multilevel Model of Loneliness as a Function of Positive Remote Interactions

Parameter	Estimate	SE	p	CI <sub>95</sub>	
				Lower	Upper
<b>Main Effects</b>					
Intercept	1.04	0.04	< .001	0.96	1.12
Time (per 7 days)	0.01	0.02	.54	-0.02	0.04
<b>Slope</b>					
Between PRI	-0.13	0.03	< .001	-0.19	-0.07
Weekend	-0.17	0.10	.09	-0.36	0.03
Gender	-0.10	0.02	< .001	-0.15	-0.06
Ethnicity	0.03	0.09	.72	-0.13	0.19
Student status	0.01	0.07	.86	-0.24	0.14
Student status	-0.06	0.10	.55	-0.12	0.13
<b>Random Effects ([co-]variances)</b>					
<b>Level 2 (between person)</b>					
Intercept	0.46	0.03	< .001	0.40	0.52
Slope	0.11	0.03	< .001	0.05	0.16
Intercept and slope	-0.10	0.04	< .01	-0.12	-0.03
<b>Level 1 (within person)</b>					
Loneliness	0.69	0.01	< .001	0.66	0.71

Note. Intercept = Intercept of loneliness, Slope = Slope of effect from within-day positive remote interaction to same-day loneliness, PRI = Positive Remote Interactions. Gender (Man = 1, Other = 0), ethnicity (White = 1 and Other = 0), international student status (International = 1 and Domestic = 0), and weekend (Weekend = 1 and Weekday = 0) variables are dummy coded.

Scan to download a copy of the poster.



### RESULTS (Multi-group analyses)

- Multi-group analyses showed that the within-person effect of positive remote interactions on loneliness was significant for Cohort 1 ( $\beta = -0.17, p < .01$ ), Cohort 2 ( $\beta = -0.15, p < .01$ ), and Cohort 4 ( $\beta = -0.12, p = .04$ ). It was nonsignificant for Cohort 3 ( $\beta = -0.07, p = .26$ ).
- The correlation between intercept of loneliness and the slope of the within-person effect of positive remote interactions on loneliness was significant for Cohort 1 only ( $r = -0.10, p = .01$ ).

### DISCUSSION

- For participants who felt less lonely in general, the effect of positive remote interactions on loneliness was less strong.
- Returning to in-person classes for the first time may decrease how effective remote interactions are on loneliness-- in-person interactions may have become more salient

### STRENGTHS

- Data collected throughout the pandemic
- Daily diary design minimizes recall bias

### LIMITATIONS

- Unknown geographical location
- Broad examination of remote interactions
- Sample of undergraduate students

### FUTURE DIRECTIONS

- Study a broader populations
- Examine specific types of remote interactions (e.g., text versus video call)
- Examine in-person interactions

Colasante, T., Lin, L., De France, K., & Hollenstein, T. (2020). Any time and place? Digital emotional support for digital natives. *American Psychologist*. Advance online publication. <https://dx.doi.org/10.1037/amp0000708>

Nguyen, M. H., Gruber, J., Marler, W., Hunsaker, A., Fuchs, J., & Hargittai, E. (2021). Staying connected while physically apart: Digital communication when face-to-face interactions are limited. *New Media & Society*. <https://doi.org/10.1177/1461444820985442> e0245009. <https://doi.org/10.1371/journal.pone.0245009>

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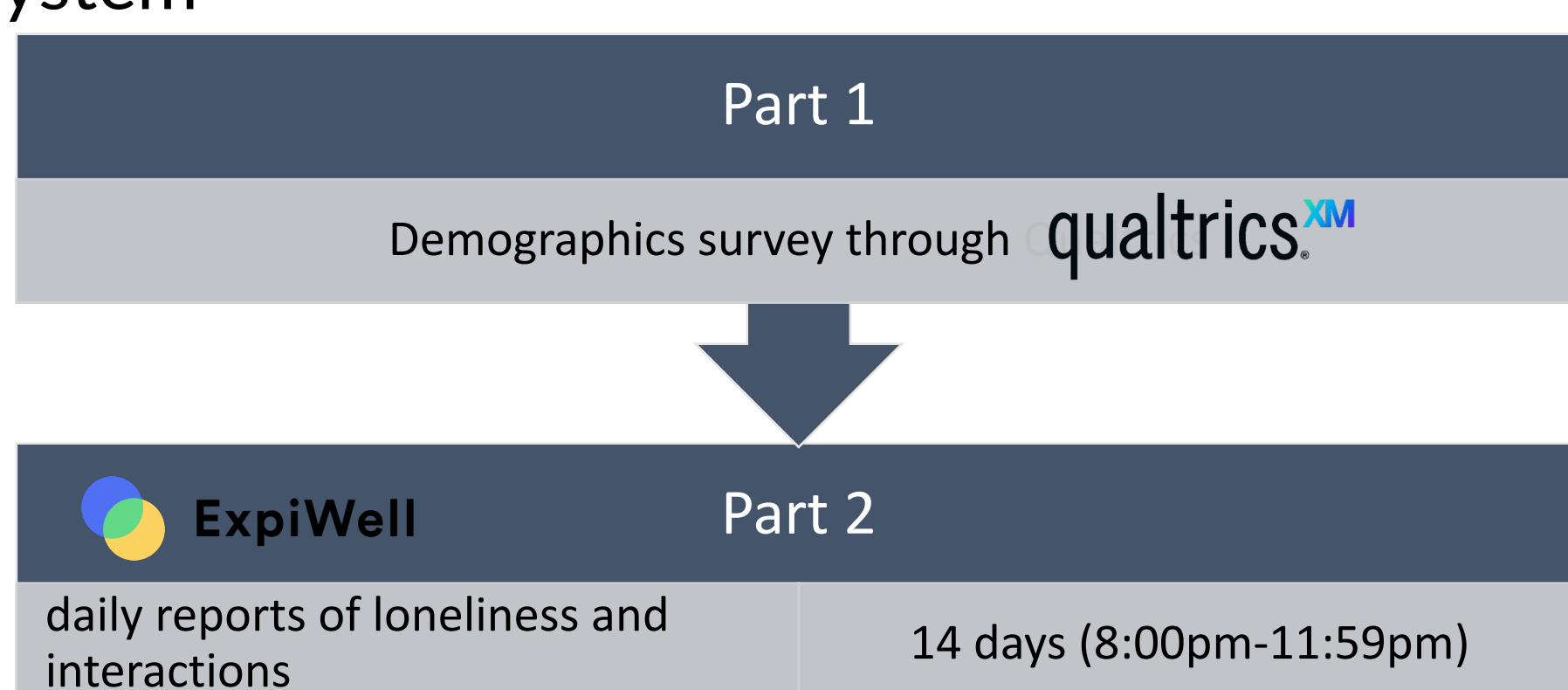
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### BACKGROUND

- Social interactions are important for well-being.
- It is important to examine the role of remote social interactions (e.g., texting) in daily experiences such as loneliness (Colasante et al., 2020; Nguyen et al., 2021), especially during the COVID-19 pandemic.
- We examined whether students' daily reports of loneliness were related to their experiences of positive remote interactions, and whether that association differed based on pandemic context.

### METHOD

- 577 undergraduate students recruited via the SONA system



- Cohort 1 (Winter 2021,  $n = 176$ ): UBCO online; lockdown
- Cohort 2 (Summer 2021,  $n = 93$ ): Lockdown lifted
- Cohort 3 (Fall 2021,  $n = 157$ ): UBCO in person
- Cohort 4 (Winter 2022;  $n = 151$ ): Post-initial Omicron; in person

### RESULTS

- Table 1: the between-person effect of positive remote interactions on loneliness was not significant.
- The within-person effect of positive remote interactions on loneliness was significant.
- The correlation between the intercept of loneliness and the slope of the within-person effect of positive remote interactions on loneliness was negative and significant.
- Participants reported lower levels of loneliness on weekends compared to weekdays.