

COVID-19, time to oneself, and loneliness: Creativity as a resource

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Abstract

Objectives. Physical distancing to reduce the spread of the coronavirus disease 2019 has increased alone time, with unintended mental health ramifications including increased loneliness, which may be particularly detrimental for older adults. We investigated time-varying associations between daily time to oneself and loneliness, and the role of everyday creativity as a resource.

Methods. 126 adults aged 18-84 completed online questionnaires including a 10-day daily diary module, during which they self-reported alone time, everyday creativity, and loneliness. Data were analyzed using multilevel models, controlling for study day, participation date, gender, and relationship status.

Results. Greater average amounts of alone time were associated with greater loneliness, an association that was stronger in old age. In a daily context, individuals reported feeling lonelier on days when they had more time to themselves than usual. This within-person association was weaker with older age. Everyday creativity did not moderate alone time-loneliness associations. However, holding time to oneself constant, participants felt less lonely and less bothered by alone time on days when they were more creative than usual.

Discussion. Participating in creative behaviors (e.g., pursuing arts and crafts) might be linked with reduced loneliness. Intervention studies are needed to investigate whether fostering creativity could help promote mental well-being in times when people, especially older adults, are vulnerable to loneliness and associated health risks.

Keywords: Solitude, loneliness, COVID-19, creativity, daily diary study

Introduction

The coronavirus disease 2019 (COVID-19) pandemic has led governments to advise reductions in face-to-face contacts to decrease virus transmission. Subjective perceptions of social isolation (loneliness), have been soaring as a consequence with often serious mental health implications (van Tilburg et al., 2020). It is of significant public health relevance to identify resources that may help individuals, especially older adults, manage increased time alone. Recent time use data indicate that older adults aged 65-74 years and older adults aged > 85 years spend 7.5 and 8.5 hrs/day by themselves, respectively, with 10-20% spending all day alone (Lam & García-Román, 2020). The present brief report investigates the potentially protective role of everyday creativity for time-varying associations between time to oneself and loneliness during the COVID-19 pandemic using daily diaries from a lifespan sample.

Time to Oneself and Loneliness during COVID-19

The state of being by oneself, characterized by the physical absence of others, has been linked with increased feelings of *loneliness*, defined as the negative affective experience resulting from a perceived lack of social contact (Perlman & Peplau, 1981). Loneliness has important mental and physical health ramifications including increased risk for heart disease, depression, and suicide attempts (Leigh-Hunt et al., 2017). Older adults may be particularly sensitive to such risks due to age-normative health declines and a prioritization of emotionally meaningful close relationships (Carstensen, 2006; Hawkey & Cacioppo, 2007). Even before the pandemic, there was an urgent need to combat rising levels of loneliness worldwide (Jeste et al., 2020). This need has been magnified by public health measures put in place; reducing in-person contact (physical distancing) and quarantining have increased alone time (Banerjee & Rai, 2020). It is thus crucial to identify resources that help individuals maintain everyday well-being and keep loneliness at bay.

Everyday Creativity as a Resource

Time alone need not be negative. Daily life findings from middle-aged and older adults show that almost half of all solitude instances are characterized by positive experiences (Lay et al., 2019). Notably, individuals sometimes spend time by themselves because they choose to (Lay et al., 2020; Ost Mor et al., 2020). People report that alone time is important to them (Madden & Rainie, 2015) and having too little time to oneself undermines well-being (Coplan et al., 2019). Alone time can allow escaping from everyday demands and social constraints and helps focus, energize, self-reflect, and relax (Ost Mor et al., 2020; Thomas & Azmitia, 2019).

One factor that might shape the experience of alone time is creativity. *Everyday creativity* comprises original and meaningful acts that individuals perform in their ordinary lives, e.g., as part of leisure or work (little-c creativity; Cohen, 2006; Kaufman & Beghetto, 2009). Examples include drawing, inventing new recipes, decorating the home, knitting, designing an original presentation, and finding an innovative solution to a problem at work. This sets it apart from *eminent creativity*, which denotes novel contributions and inventions that have significant cultural impact (Big-C creativity; Kaufman & Beghetto, 2009). Creative thinking may help individuals generate ideas about how to positively use alone time, e.g., for relaxation and leisure activities (Thomas & Azmitia, 2019). Daily life findings from young adults show that everyday creativity can foster states of flourishing and affective well-being (Conner et al., 2018). Although creativity as operationally defined by divergent thinking abilities may be negatively associated with age, the participation in everyday creative activities keeps being an important part of older adults' lives (Hui et al., 2019). In fact, a study with 594 young, middle-aged, and older adults suggests a curvilinear relationship between age and creative participation, with everyday creativity being lowest in midlife

and highest in old age (Hui et al., 2014). Furthermore, participation in creative and cultural activities might be particularly beneficial for older adults, in that they are associated with better physical health, fewer doctor visits, improved mental health, and better quality of life (Cohen, 2006; Hui et al., 2019).

The goal of this brief report was to examine the role of everyday creativity for warding off loneliness in the face of increased alone time during COVID-19 using repeated daily life assessments from a lifespan sample. We predicted that individuals would feel lonelier on days when they had more time to themselves than usual, and that everyday creativity would weaken this association. To account for gender differences in the manifestation of everyday creativity with women more likely engaging in arts and crafts (Diedrich et al., 2018; Elisondo, 2020), models control for gender. We further control for relationship status, study day, and participation date.

Methods

Participants and Procedure

From April to August 2020, 126 Canadian adults aged 18 to 84 years (M age = 41.4, SD = 18.3, 77% female, 75% at least some college, 74% White) completed an online questionnaire on sociodemographics and social/personality constructs and brief morning and evening surveys for 10 consecutive days (adherence: M = 7.6 days, SD = 2.6). Participants were recruited through advertisements placed in online platforms (e.g., social media) and newspapers in Canada and from past participant pools. Out of 225 individuals who completed the initial questionnaire, 177 started the evening surveys. Because we were interested in within-person fluctuations, we removed data of individuals who completed only one evening survey (n = 40; out of which 6 explicitly asked to withdraw from the study), never reported spending any time by themselves (n = 6), or never reported any everyday creativity (n = 2). Data of three participants were excluded due to missing information on gender. The study received ethics approval; participants provided informed consent. Participants could win Amazon gift cards (value: 50 CAD) for completing the online questionnaire and $\geq 80\%$ of evening surveys. Our sample size allowed us to detect small effects on level 1 and large effects on level 2 with 80% power (Arend & Schäfer, 2019).

Measures

Each evening, participants reported whether they had any *time to themselves* today (yes = 88% of days) and if so, its duration (M = 4.5 hrs, SD = 4.1) and whether they felt bothered by it (M = 12.9, SD = 21.0; 0 “not at all” to 100 “very much”). *Everyday creativity* (M = 36.2; SD = 17.6; 0 “not at all” to 100 “very much”) was measured by: “Overall, how creative were you today? Creativity includes coming up with novel or original ideas; expressing oneself in an original and useful way; or spending time doing artistic activities (art, music, painting, writing, etc” (Conner et al., 2018). Finally, participants reported how *lonely* they felt today (M = 25.4, SD = 24.1; 0 “not at all” to 100 “very much”).

Covariates included gender, relationship status, average day-level predictors, temporal changes in loneliness (study day), and COVID-19 regulations (participation date). □

Statistical Analysis

Multi-level models accommodated the nested data structure (days within individuals; R lme 4 package, Bates et al., 2015). A variance decomposition analysis showed that 64% of variability in loneliness scores could be attributed to between-person differences ($ICC = .64$; Variance between: 517.4, $p < .001$), whereas 36% were attributed to fluctuations in loneliness within individuals across study days (Variance within: 291.0, $p < .001$). Models used restricted maximum likelihood estimation and included a random intercept and random slopes for day of study and time to oneself. Day-level predictors were person-centered; all other predictors were grand-mean centered except for binary variables (uncentered). Model equations are displayed in the online supplement.

Results

Supplementary Table 1 shows descriptive statistics and intercorrelations. Greater time to oneself was associated with greater loneliness ($r = .45$, $p < .001$). Levels of loneliness ($F(2, 123) = 6.50$, $p = .002$) and time to oneself ($F(2, 123) = 3.28$, $p = .041$) differed by age group. A post hoc Tukey test showed that middle-aged adults reported higher levels of loneliness than younger and older adults. As compared with older adults, middle-aged adults also reported higher amounts of alone time. A significantly lower number of younger adults was currently in a relationship (31%), as compared with middle-aged (59%) and older adults (75%). Older age was associated with higher everyday creativity ($r = .26$, $p = .004$). Participants in a relationship reported less alone time ($r = -.35$, $p < .001$) and loneliness ($r = -.23$, $p = .009$).

Time to Oneself and Loneliness During COVID-19

As expected, participants reported feeling lonelier on days when they had more time to themselves than usual ($b = 1.01$, $SE = 0.35$, $p = .006$; *Table 1* Model A; *Figure 1*). This association was weaker with older age ($b = -0.07$, $SE = 0.03$, $p = .020$). Participants who on average spent more time alone had greater overall levels of loneliness ($b = 1.90$, $SE = 0.53$, $p < .001$), a link which was exacerbated in old age ($b = 0.13$, $SE = .04$, $p = .001$). Levels of loneliness declined throughout the study ($b = -0.70$, $SE = 0.25$, $p = .006$) and were highest in middle-aged participants ($b = -0.02$, $SE = 0.01$, $p = .004$).

Everyday Creativity as a Resource

Contrary to expectations, everyday creativity did not moderate the association between time to oneself and loneliness ($b = -0.02$, $SE = 0.01$, $p = .163$). However, controlling for daily amount of time to oneself, participants felt less lonely on days on which they were more creative than usual ($b = -0.11$, $SE = 0.03$, $p = .001$; *Table 1* Model B; *Figure 1*). This association was strongest in middle age ($b < 0.01$, $SE < 0.01$, $p = .003$). Follow-up analyses showed that participants also felt less bothered by alone time on days on which they were more creative than usual ($b = -0.11$, $SE = 0.03$, $p < .001$). Person-average creativity levels were unrelated to loneliness ($b = -0.03$, $SE = 0.11$, $p = .760$). Including creativity in the model significantly improved model fit ($\chi(2) = 23.2$, $p < .001$). Explained variance in Models A and B was 20% and 21% due to fixed effects and 72% and 74% due to fixed and random effects, respectively.

Discussion

The year of 2020, marked by a world-wide pandemic, presented unique circumstances to examine resources for mitigating loneliness because physical distancing measures reducing the spread of COVID-19 considerably increased alone time. We found that individuals felt lonelier on days when they had more time to themselves than usual. Importantly, individuals felt less lonely and less bothered by alone time on days when they were more creative than usual.

Time to Oneself and Loneliness During COVID-19

Time to oneself was common, averaging 4.5 hrs/day. Contrary to the literature, middle-aged (not older) participants exhibited highest alone time. One reason might be that a large proportion of older adults were in a relationship (75%) in this study. As expected, individuals reported elevated loneliness when they had more time to themselves than usual. While this daily relationship was weaker in older adults, the relationship between overall alone time and loneliness was exacerbated in old age, pointing to the need to disentangle within- and between person associations. Rising levels of loneliness pre- to post-pandemic (van Tilburg et al., 2020) highlight the crucial importance of research on resources that help preserve emotional well-being.

Everyday Creativity as a Resource

Everyday creativity may be such a candidate. In line with previous research, older age was positively associated with levels of everyday creative behaviors (Hui et al., 2014; Karwowski et al., 2017). While creativity did not moderate daily alone time–loneliness associations, participants reported lower levels of loneliness on days when they were more creative than usual (holding the amount of daily alone time constant). This was particularly pronounced in midlife, potentially because individuals performed creative activities as part of their work (Karwowski et al., 2017). Our brief report showed that everyday creativity was common, with mean levels of 36 out of 100 across the study period. This emphasizes that creativity might not only have positive implications if it comprises a grandiose, novel accomplishment (eminent creativity) but that most individuals might be able to find small opportunities in daily life to express their creativity, in their own way.

Everyday creativity might promote feelings of engagement with life and flow (Csikszentmihalyi, 2013). Furthermore, daily creative behaviors could provide individuals with a sense of mastery and empowerment, which has established benefits for health and well-being (Cohen, 2006). Participants also felt less bothered by alone time when they were more creative than usual. If time to oneself is used for intrinsic purposes, it might more likely be appraised as useful and valuable. Indeed, cognitive reappraisal of alone time can go along with affective benefits (Rodriguez et al., 2020). Engaging in pleasant activities while alone might prevent ruminative thinking (Takano et al., 2013) that otherwise would promote negative experiences (Lay et al., 2019). Everyday creativity as a resource may be especially valuable for individuals at increased loneliness risk beyond the pandemic, e.g., older adults with mobility limitations who cannot leave the house and individuals living alone (Steptoe et al., 2013). **Limitations and Future Directions**

The correlational design did not allow us to disentangle whether everyday creativity preceded reduced loneliness or whether feeling less lonely promotes creative activities. Denser sampling may shed light on time-ordered associations. We also did not have any information on levels of everyday creativity or loneliness prior to the pandemic. Thus, we do not know whether the observed dynamics were specific to the current circumstances or shaped by time-invariant characteristics. Another limitation is that our sample was predominantly female, relatively well educated, and that most older adults were in a relationship. This is important because women

and individuals of higher socio-economic status tend to self-report higher creativity (Kaufman, 2006; Richards et al., 1988). The found differences between younger, middle-aged, and older adults might thus also be attributed to the sample composition with respect to gender, education, and relationship status. Findings need to be replicated with more representative samples, including older adults with greater alone time, to examine generalizability. Furthermore, future research should consider life circumstances that may hinder the ability to engage in everyday creative behaviors (e.g., childcare responsibilities or a job with little creative potential). Everyday creativity was measured using a single item. Future studies should disentangle different types and durations of creative activities to determine what is most beneficial.

Conflict of Interest

The authors declare no conflict of interest.

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Table 1

Results from Multilevel Models Examining Loneliness Using Restricted Maximum Likelihood Estimation (N = 126 participants)

Variable	B (SE)	Model A 95% CI	p	B (SE)	Model B 95% CI	p
<i>Fixed Effects</i>						
Intercept	26.67 (5.56)	[16.03;37.37]	<.001	28.23 (7.27)	[14.34;42.12]	<.001
Day of study	-0.70 (0.25)	[-1.19;-0.21]	.006	-0.60 (0.25)	[-1.09;-0.12]	.017
Participation date	-0.74 (1.54)	[-3.70;2.22]	.634	-0.62 (1.55)	[-3.58;2.33]	.688
Age (linear)	0.37 (0.18)	[0.02;0.72]	.045	0.38 (0.19)	[0.02;0.74]	.045
Age (quadratic)	-0.02 (0.01)	[-0.04;-0.01]	.004	-0.02 (0.01)	[-0.04;-0.01]	.004
Gender	6.04 (4.47)	[-2.53;14.61]	.179	5.99 (4.47)	[-2.55;14.54]	.183
Relationship status	-8.44 (4.83)	[-17.71;0.82]	.083	-8.72 (4.84)	[-17.98;0.53]	.074
Daily time to oneself	1.01 (0.35)	[0.32;1.72]	.006	1.07 (0.31)	[0.46;1.71]	.001
Person-average time to oneself	1.90 (0.53)	[0.88;2.91]	<.001	1.86 (0.54)	[0.83;2.88]	<.001
Everyday creativity				-0.11 (0.03)	[-0.18;-0.05]	.001
Person-average creativity				-0.03 (0.11)	[-0.25;0.18]	.760
<i>Random Effects</i>						
Intercept	19.41	[16.29;21.75]	<.001	18.96	[16.31;21.73]	<.001
Day of study	1.66	[1.11;2.20]	<.001	1.27	[1.10;2.16]	<.001
Daily time to oneself	1.69	[0.82;2.52]	.002	1.05	[0.00;2.09]	.112
Everyday creativity				0.18	[0.09;0.25]	.002
<i>Model fit</i>						
Deviance	7165.0			7149.7		

Note. B = unstandardized regression coefficient. SE = standard error. CI = confidence interval. Gender was coded 0 = female, 1 = male.

Relationship status was coded 0 = not in a relationship, 1 = in a relationship. Participation date was scaled in months since 1st of January 2020.

Models are based on 817 days nested within 126 participants.

Figure 1

Model-Implied Within-Person Associations Between (a) Daily Time to Oneself and (b) Everyday Creativity with Loneliness

Note. The figure illustrates that participants reported increased loneliness on days on which they had more time to themselves than usual and decreased loneliness on days on which they were more creative than usual. Variables were centered at the person-mean to depict within-person fluctuations.

1 We ran additional models controlling for self-reported differences in alone time prior to the pandemic and current levels ($M_{\text{diff}} = 0.9$ hrs, range: -16 to +23; $M_{\text{prepandemic}} = 7.3$ hrs/day, $M_{\text{current}} = 8.3$ hrs/day) as well as for how typical the study period was of participants' everyday life. Reported findings did not change. Individuals higher in openness ($r = .26, p = .003$) and those higher in extraversion ($r = .18, p = .049$) reported higher everyday creativity. Including these variables as controls did not change the pattern of reported results. The relationship between everyday creativity and loneliness was moderated by extraversion in such a way that extraverted individuals showed a weaker association between higher everyday creativity and reduced loneliness ($b = 0.07, SE = 0.03, p = .035$).

