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ORIGINAL ARTICLE

Socioeconomic challenges during the COVID-19 pandemic for Veterans with psychosis or recent homelessness

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Abstract

The COVID-19 pandemic and social distancing have directly impacted the socioeconomic well-being of most Americans. Veterans with psychosis (PSY) and Veterans who were recently housed (RHV) through a supportive housing programme may be especially vulnerable to experiencing negative socioeconomic effects of the pandemic. In this study, we investigated socioeconomic experiences and challenges during the pandemic in these two putatively vulnerable Veteran groups and in Veterans with no history of PSY or homeless (i.e., control Veterans, CTL). A total of 231 Veterans (81 PSY, 76 RHV, 64 CTL) participated in the baseline assessment, and 203 in the follow-up assessment (74 PSY, 63 RHV, 66 CTL). At both assessment points we obtained socioeconomic information, including personal finances, financial concerns, housing concerns, experience of material hardships, and employment status. All groups of Veterans reported socioeconomic challenges during the pandemic, but the pattern of effects differed across groups. Although RHV was in a similar position to the PSY group with respect to personal finances, they reported lower levels of financial well-being and were more prone to experiencing material hardships compared to the other two groups. CTL was most vulnerable to experiencing negative financial shocks. Contrary to expectations, PSY did not experience disproportionate material hardships compared to CTL. Veterans face significant socioeconomic challenges during the COVID-19 pandemic. However, RHV disproportionately experienced certain concerns and hardships, and these are a target for intervention by clinicians and service providers. PSY generally fared better than anticipated, possibly reflecting longstanding engagement with VA services that could serve to buffer the socioeconomic impact of the pandemic.

KEYWORDS

COVID-19, homeless persons, low income population, psychotic disorders, Veterans

1 | INTRODUCTION

The COVID-19 pandemic has directly impacted the socioeconomic well-being of most Americans. The global economic slowdown, combined with state and local efforts to reduce community spread of the virus, has resulted in an economic recession in the United States, with unprecedented job loss and business closures (Dalton, 2020; Dalton et al., 2020; U.S. Bureau of Labor Statistics, 2021). Since the start of the pandemic, many Americans have experienced a sudden change in their personal finances, are unable to afford monthly housing costs and debt obligations, and are having difficulty obtaining the necessities of daily life (Bauer et al., 2020).

Veterans with psychosis (PSY) and Veterans who were recently housed (RHV) through the U.S. Department of Housing and Urban Development – Veterans Affairs Supportive Housing (HUD-VASH) programme (i.e., formerly homeless) may be especially vulnerable to experiencing negative socioeconomic effects of the pandemic (Tsai et al., 2021). Psychosis is associated with cognitive impairment, including difficulties with cognitive flexibility, planning, and problem solving (Fioravanti et al., 2012; Heinrichs & Zakzanis, 1998; Mesholam-Gately et al., 2009). Cognitive impairment is also common in adults who have experienced homelessness (Depp et al., 2015; Wynn et al., 2021). Impaired cognition may lead to difficulty successfully navigating the socioeconomic challenges posed by the pandemic. Specifically, the pandemic has required many people to rapidly adjust to a sudden change in their finances, to find and access assistance programmes in their community, and to anticipate future problems and plan ahead to mitigate their impact (e.g., negotiate a modified payment plan with lenders to avoid defaulting on a loan).

Social relationships and engagement in one's community may provide a buffer against hardships during times of difficulty, and the absence of such ties to the community represents another potential vulnerability factor. Individuals with PSY and those who have experienced homelessness are prone to social isolation and are less integrated into their communities (Green et al., 2020; Tsai et al., 2012; Tsai & Rosenheck, 2015; Wynn et al., 2020, 2021). Thus, these individuals may have fewer sources of social and instrumental support at their disposal. Indeed, by virtue of their recent housing placement, RHV may have entered the pandemic in an especially precarious position, with tenuous links to their housing, formal and informal sources of social and instrumental support, and to their community more broadly, which may render them vulnerable to experience socioeconomic hardships associated with the pandemic.

The overall aims of the longitudinal project (VA RR&D # D1875-F) are (a) to examine the immediate and sustained impact of the pandemic on three groups of Veterans at the VA Greater Los Angeles Healthcare System, and (b) to identify predictors of recovery trajectories for a number of important domains (e.g., clinical symptoms, community integration, socioeconomic factors). PSY, RHV, and control (CTL) Veterans (i.e., without a history of PSY or homelessness) completed assessments via telephone at regular intervals. The initial impact of the pandemic on clinical symptoms and community functioning is reported elsewhere (Wynn et al., 2021). In this paper, we

What is known about this topic?

- The COVID-19 pandemic and social distancing have directly impacted the socioeconomic well-being of most Americans. Among Veterans, certain groups may be especially vulnerable to experiencing negative socioeconomic effects of the pandemic.

What this paper adds?

- Veterans face significant socioeconomic challenges during the COVID-19 pandemic. However, Veterans who have recently experienced homelessness disproportionately experienced certain socioeconomic concerns and hardships, and these are a target for intervention by clinicians and service providers.
- Veterans with psychosis generally fared better than anticipated, possibly reflecting longstanding engagement with VA services that could serve to buffer the socioeconomic impact of the pandemic.

focus on socioeconomic challenges during the pandemic in three areas: financial concerns, housing concerns, and hardships. Financial concerns refer to financial well-being, and financial attitudes, skills, and behaviours. Housing concerns refer to level of satisfaction with one's current living situation and concerns about losing housing. Hardships refer to experience of negative financial shocks (e.g., sudden loss of income) and actual or threatened difficulties obtaining the necessities of daily life (e.g., food insecurity, difficulties paying for shelter, medical care, transportation, etc.).

Here, we present socioeconomic data from the baseline assessment (Summer 2020) and the first follow-up assessment (Fall 2020) of the longitudinal project. Compared to CTL Veterans, we expected that the two vulnerable groups (i.e., PSY and RHV) would disproportionately report financial and housing concerns. We also predicted that the two vulnerable groups would be more likely to experience hardships during the COVID-19 pandemic.

2 | METHOD

Data collection for the baseline assessment occurred between mid-May – mid-August, 2020 (“baseline”) and mid-August – mid-October, 2020 for the first follow-up assessment (“follow-up 1”). Details about the recruitment methods and general study procedures can be found in Wynn et al. (2021). For recently housed Veterans (RHV), we utilised the VA Computerised Patient Record Systems (CPRS) and VA Informatics and Computing Infrastructure (VINCI) to determine if the participant had a current HUD-VASH voucher. For Veterans with PSY, we examined CPRS to determine if a psychotic disorder was listed in their medical record to verify eligibility. We obtained a waiver of documentation from the VA

Greater Los Angeles Institutional Review Board. A total of 956 potentially eligible participants were contacted by phone by a lab research assistant. After a brief description of the project, participants who agreed to participate provided verbal informed consent, which was documented by the research assistant. All procedures were approved by the VA Greater Los Angeles Institutional Review Board and conform to the principles embodied in the Declaration of Helsinki.

Inclusion criteria for PSY were a chart diagnosis of psychotic disorder (other than substance-induced PSY). For RHV, participants had to be housed within the past 12 months with a HUD-VASH voucher. Of the RHV, eight had a diagnosis for a psychotic disorder, which was permissible for this group. For the control group (CTL), inclusion criteria were no history of a psychotic disorder diagnosis or evidence of homelessness based on codes in VINCI and review of CPRS. Clinical and demographic information for the three groups are presented in

Table 1. The study assessments were conducted via telephone with trained interviewers. The scales and questionnaires in the interviews are listed in Table 2.

2.1 | Analytical approach

For demographics and socioeconomic variables collected at the baseline assessment, we used chi-square to assess differences in frequencies, and analyses of variance or median tests to examine group differences. Group \times Time effects for the socioeconomic data collected at the baseline and Follow-up 1 assessment were analysed using linear mixed models or repeated measures logistic regression (binomial for dichotomous outcomes, ordinal for ordered polychotomous outcomes) using the MIXED and GENLIN functions in SPSS version 26 (IBM SPSS Statistics).

TABLE 1 Demographics, socioeconomic, and clinical diagnoses

	CTL (n = 74)	RHV (n = 76)	PSY (n = 81)	Statistic, p-value
Demographics				
Age	56.5 (9.5)	51.6 (12.5)	54.4 (9.8)	$F_{(2,228)} = 4.03, p = 0.02$ CTL > RHV
Gender (M:F)	63:11	66:10	72:9	$\chi^2_{(2)} = 0.49, p = 0.79$
Personal education (years)	14.6 (2.0)	13.4 (1.5)	13.4 (1.6)	$F_{(2,228)} = 12.94, p < 0.001$ CTL > RHV, PSY
Parental education	13.0 (3.1)	13.5 (3.1)	12.9 (3.9)	$F_{(2,228)} = 0.74, p = 0.48$
Ethnicity (H:NH)	19:55	21:55	16:63	$\chi^2_{(2)} = 1.23, p = 0.54$
Race (B:W:O)	28:38:8	34:31:9	40:29:10	$\chi^2_{(4)} = 3.47, p = 0.48$
Socioeconomic				
Median annual income (IQR)	\$58,000 (64,000)	\$24,500 (25,065)	\$23,500 (28,180)	Kruskal-Wallis $H_{(2)} = 54.87, p < 0.001$ CTL > PSY, RHV
Housing status (% living independently)	74 (100%)	74 (97.4%)	66 (81.5%)	$\chi^2_{(2)} = 25.93, p < 0.001$ CTL, RHV > PSY
Home ownership (% home owners)	40 (54.1%)	1 (1.3%)	6 (7.4%)	$\chi^2_{(4)} = 88.07, p < 0.001$ CTL > RHV, PSY
Employment status (% employed part-time or more)	40 (54.1%)	11 (14.5%)	14 (17.3%)	$\chi^2_{(4)} = 33.93, p < 0.001$ CTL > RHV, PSY
Received stimulus direct payment (% receiving)	62 (83.7%)	57 (75.0%)	57 (70.3%)	$\chi^2_{(4)} = 8.20, p = 0.09$
Benefits				
VA service-connected (% receiving)	55 (74.3%)	53 (69.7%)	55 (67.9%)	$\chi^2_{(2)} = 0.81, p < 0.67$
Social security disability (% receiving)	12 (16.2%)	27 (35.5%)	47 (58.0%)	$\chi^2_{(2)} = 29.34, p < 0.001$ PSY > RHV > CTL
Other (e.g., food assistance) (% receiving)	4 (5.4%)	27 (35.5%)	18 (22.2%)	$\chi^2_{(2)} = 20.98, p < 0.001$ PSY, RHV > CTL
Mood disorder	47.3%	60.5%	23.5%	-
PTSD	39.2%	42.1%	22.2%	-
Alcohol use disorder	4.1%	22.4%	23.5%	-
Substance use disorder	9.5%	38.2%	33.3%	-

Abbreviations: B, Black; F, Female; H, Hispanic; M, male; NH, non-Hispanic; O, other; PTSD, posttraumatic stress disorder; W, White.

TABLE 2 Interview measures

Measure	Description	Variable(s) of interest	Data collection points
Personal finances			
Timeline Historical Review of Income and Financial Transactions (THRIFT) (Black et al., 2013)	Information about personal finances	Monthly income, monthly expenses, monthly balances	Baseline, follow-up 1–4
Financial concerns			
Financial Well-Being scale, Part A (Consumer Financial Protection Bureau, 2017)	Financial well-being, including financial security, financial freedom to make choices to enjoy life, capacity to absorb a financial shock, on track to meet financial goals	Sum of six items (range from 1 to 30) Each item scored from 1 (“not at all”) to 5 (“completely”), with some items reverse scored. Higher score is indicative of better financial well-being	Baseline, follow-up 2 and 4
Propensity to plan for finances (Consumer Financial Protection Bureau, 2017)	Financial skills and behaviours, financial planning and goal setting	Sum of four items (range 1–20) Each item scored 1 (“strongly disagree”) to 5 (“strongly agree”), with higher scores indicating a greater propensity to plan for finances	Baseline, follow-up 2 and 4
Stimulus Scales (Conway et al., 2020)	Attitudes about the stimulus measures included in the March 2020 Federal CARES Act package	Sum of two items (range 2–14) Each item scored 1 (“not true of me at all”) to 7 (“very true of me”), with higher scores indicating a more favourable attitude about the Federal stimulus measures	Baseline, follow-up 1–4
Housing concerns			
Housing satisfaction (Consumer Financial Protection Bureau, 2017)	Level of satisfaction with current housing situation	Single item Rated from 1 (“not at all satisfied”) to 4 (“very satisfied”)	Baseline, follow-up 1–4
Awareness of COVID-19 eviction moratorium (see Supporting Information)	Awareness of eviction moratorium by local and state governments	Single item Yes (i.e., aware)/No (i.e., unaware)	Baseline, follow-up 1–4
Post-moratorium eviction concern (see Supporting Information)	Level of concern about housing once eviction moratorium ends	Single item Yes (i.e., concerned)/No (i.e., not concerned)	Baseline, follow-up 1–4
Non-payment of rent (see Supporting Information)	Delayed or withheld rent payment in the past month	Single item Yes/No	Baseline, follow-up 1–4
Hardships			
Experienced negative financial shocks (Consumer Financial Protection Bureau, 2017)	Unexpected and large negative financial changes (e.g., major costly repair, reduced work hours or pay, etc.) in the past 3 months	Ten Yes/No items Data reduced to a dichotomous variable: Yes (i.e., “Yes” response to ≥ 1 items) or No (i.e., “No” response to all items) *Note, the item “Received a large sum of money beyond normal” from this scale is excluded	Baseline, follow-up 2 and 4

(Continues)

TABLE 2 (Continued)

Measure	Description	Variable(s) of interest	Data collection points
Experienced material hardship (Consumer Financial Protection Bureau, 2017)	Material hardships including concerns about a food shortage, inability to afford medical treatment, housing, or utilities over the past month	Six items rated from 1 ("never") to 3 ("often") Data reduced to a dichotomous variable: Yes (i.e., "sometimes" or "often" response to ≥ 1 material hardships in the past month) or No ("never" response to all items)	Baseline, follow-up 1–4
Experience material hardship, Item 1 (Consumer Financial Protection Bureau, 2017)	Food insecurity – concerns about running out of food over the past month (i.e., anticipated a shortage)	Single item Rated from 1 ("never") to 3 ("often")	Baseline, follow-up 1–4
Questionnaire for Assessing the Impact of the COVID-19 Pandemic on Older Adults (QAICPOA), Item 12 (Cawthon et al., 2020)	Food insecurity – difficulty actually obtaining food over the past month	Single item Rated from 1 ("none") to 3 ("much") *Note: Original scale item ranges from 1 ("none") to 4 ("unable"). For these analyses, scores of 3 and 4 were collapsed together	Baseline, follow-up 1–4

3 | RESULTS

3.1 | Sample characterisation

Baseline characteristics of the sample are presented in Table 1. A total of 231 subjects (81 PSY, 76 RHV, and 74 CTL), participated in the baseline assessment. Retention for the follow-up assessment was relatively high (>82% in each group). Groups did not significantly differ in the distribution of ethnicity, race, or gender. There were significant between group differences in age (CTL were older than RHV) and in personal education (CTL had higher education than RHV and PSY). However, there were no significant differences in parental education, which serves as a proxy measure of socioeconomic status, among the groups. Less than 3% of the participants in each group reported being diagnosed with COVID-19 at baseline, and none reported being diagnosed with COVID-19 at follow-up. Less than 20% of participants in each group at baseline and less than 9% in each group at follow-up reported having to self-quarantine due to potential COVID-19 exposure.

Baseline housing status significantly differed across groups, with fewer PSY living independently compared to RHV or CTL ($p < 0.05$), and a greater percentage of CTL were homeowners compared to PSY and RHV ($p < 0.05$). The groups differed regarding employment status; a greater proportion of CTL was employed compared to RHV and PSY ($p < 0.001$). The main effect of Time and Group \times Time interaction effect was not significant for employment status ($p > 0.40$).

At baseline, there were significant group differences for the personal finance variables ($p \leq 0.004$). Of note, 44 participants (19.0%) declined to provide household income information, 36 participants (15.6%) declined to provide complete information about monthly personal finances at the baseline assessment, and 30 participants

(14.8%) declined to provide this information at the follow-up assessment. As expected, median annual household income, monthly income, and expenses at baseline were significantly higher in CTL compared to RHV and PSY ($p \leq 0.001$). Financial account balances were highest for CTL, lowest for RHV, and PSY was intermediate. There was no significant effect of time, or Group \times Time interaction for monthly income, expenses, or balances ($p \geq 0.49$).

The groups did not significantly differ regarding receipt of VA service-connected benefits (i.e., compensation benefits for disabilities that are linked to military service) ($p = 0.67$). However, the groups did significantly differ with regard to disability benefits and other types of assistance (e.g., food assistance, general relief) ($p < 0.001$). A greater proportion of PSY received disability benefits compared to RHV and CTL ($p < 0.05$), and a greater proportion of RHV received disability benefits compared to CTL ($p < 0.05$). Compared to CTL, a greater proportion of PSY and RHV received other types of assistance ($p < 0.05$). At both assessments, few participants had applied for or were receiving unemployment benefits, and there were no significant main effects of Group, Time, or their interaction ($p \geq 0.18$).

3.2 | Socioeconomic concerns: Financial concerns, housing concerns, and hardships

Data for the study variables are presented in Table 3.

3.2.1 | Financial concerns

At baseline, there was a significant effect of Group on self-reported financial well-being ($p < 0.001$), with RHV reporting lower financial

TABLE 3 Socioeconomic variables

	CTL		RHV		PSY	
	Baseline, n = (74)	Follow-up 1, n = (66)	Baseline, n = (76)	Follow-up 1, n = (63)	Baseline, n = (81)	Follow-up 1, n = (74)
Unemployment benefits						
Applied for unemployment benefits in past month n (%)	3 (4.1%)	4 (6.1%)	6 (7.9%)	2 (3.2%)	4 (4.9%)	3 (4.1%)
	Group: Wald $\chi^2_{(2)} = 0.06, p = 0.97$ Time: Wald $\chi^2_{(1)} = 0.62, p = 0.43$ Group \times Time: Wald $\chi^2_{(2)} = 3.47, p = 0.18$					
Received unemployment benefits in past month n (%)	6 (8.1%)	4 (6.1%)	2 (2.6%)	3 (4.8%)	3 (3.7%)	4 (5.4%)
	Group: Wald $\chi^2_{(2)} = 0.06, p = 0.97$ Time: Wald $\chi^2_{(1)} = 0.62, p = 0.43$ Group \times Time: Wald $\chi^2_{(2)} = 3.47, p = 0.18$					
Personal finances						
Median monthly income (IQR)	\$3,200 (3,485)	\$3,000 (3,373)	\$1,830 (2,219)	\$1,628 (2,110)	\$1,710 (2,851)	\$1,600 (2,401)
	Group: $F_{(2,406)} = 20.93, p < 0.001, CTL > PSY, RHV$ Time: $F_{(1,406)} = 0.48, p = 0.49$ Group \times Time: $F_{(2,406)} = 0.11, p = 0.89$					
Median monthly expenses (IQR)	\$3,000 (2,815)	\$2,760 (2,915)	\$1,314 (1,642)	\$1,375 (1,525)	\$1,185 (1,519)	\$1,342 (1,828)
	Group: $F_{(2,403)} = 48.05, p < 0.001, CTL > PSY, RHV$ Time: $F_{(1,403)} = 0.01, p = 0.94$ Group \times Time: $F_{(2,403)} = 0.42, p = 0.66$					
Median monthly balances (IQR)	\$5,000 (15,237)	\$1,950 (14,913)	\$13 (400)	\$35 (500)	\$160 (2,018)	\$210 (1,495)
	Group: $F_{(2,366)} = 5.71, p = 0.004, CTL > RHV$ Time: $F_{(1,366)} = 0.21, p = 0.65$ Group \times Time: $F_{(2,366)} = 0.51, p = 0.60$					
Financial concerns						
Financial Well-being Scale, Part 1 Mean (SD)	18.74 (5.70)	-	15.19 (4.77)	-	18.17 (5.85)	-
	$F_{(2,224)} = 9.14, p < 0.001, CTL, PSY > RHV$					
Propensity to plan for finances mean (SD)	15.08 (4.25)	-	14.18 (3.99)	-	15.27 (3.59)	-
	$F_{(2,223)} = 1.65, p = 0.19$					
Stimulus Scales Mean (SD)	12.09 (3.13)	12.09 (3.10)	12.84 (1.72)	13.08 (1.70)	12.43 (2.42)	12.17 (2.99)
	Group: $F_{(2,413.40)} = 4.23, p = 0.02, RHV > CTL$ Time: $F_{(1,423.06)} = 0.02, p = 0.88$ Group \times Time: $F_{(2,423.10)} = 0.08, p = 0.92$					
Housing concerns						
Housing satisfaction mean (SD)	1.78 (0.92)	1.85 (0.85)	1.86 (0.99)	1.84 (1.00)	1.86 (0.93)	1.85 (0.94)
	Group: $F_{(2,423.10)} = 0.07, p = 0.93$ Time: $F_{(1,423.06)} = 0.02, p = 0.88$ Group \times Time: $F_{(2,423.10)} = 0.08, p = 0.92$					
Aware of eviction moratorium n (%)	66 (89.2%)	60 (90.9%)	61 (80.2%)	52 (82.5%)	53 (65.4%)	57 (77.0%)
	Group: Wald $\chi^2_{(2)} = 14.88, p = 0.001, RHV, CTL > PSY$ Time: Wald $\chi^2_{(1)} = 2.34, p = 0.13$ Group \times Time: Wald $\chi^2_{(2)} = 0.61, p = 0.74$					

(Continues)

TABLE 3 (Continued)

	CTL		RHV		PSY	
	Baseline, <i>n</i> = (74)	Follow-up 1, <i>n</i> = (66)	Baseline, <i>n</i> = (76)	Follow-up 1, <i>n</i> = (63)	Baseline, <i>n</i> = (81)	Follow-up 1, <i>n</i> = (74)
Have post-moratorium housing concerns <i>n</i> (%)	6 (8.1%)	1 (1.5%)	5 (6.6%)	5 (7.9%)	4 (4.9%)	4 (5.4%)
	Group: Wald $\chi^2_{(2)} = 1.30, p = 0.52$ Time: Wald $\chi^2_{(1)} = 1.10, p = 0.30$ Group \times Time: Wald $\chi^2_{(2)} = 2.98, p = 0.26$					
Delayed or withheld rent in past month <i>n</i> (%)	4 (5.4%)	1 (1.5%)	8 (10.7%)	6 (9.7%)	1 (1.3%)	0 (0.0%)
	Group: Wald $\chi^2_{(2)} = 197.53, p < 0.001, RHV > PSY, CTL$ Time: Wald $\chi^2_{(1)} = 83.75, p < 0.001$ Group \times Time: Wald $\chi^2_{(2)} = 140.88, p < 0.001$					
Hardships						
Experienced Material Hardships (past month) <i>n</i> (%)	26 (35.1%)	21 (31.8%)	54 (71.0%)	38 (60.3%)	38 (46.9%)	28 (37.8%)
	Group: Wald $\chi^2_{(2)} = 18.53, p < 0.001, RHV > PSY, CTL$ Time: Wald $\chi^2_{(1)} = 5.41, p = 0.02$ Group \times Time: Wald $\chi^2_{(2)} = 2.86, p = 0.24$					
Experienced negative financial shocks (past 3 months) <i>n</i> (%)	57 (77.0%)	-	45 (59.2%)	-	33 (40.7%)	-
	$\chi^2_{(2)} = 18.95, p < 0.001, CTL > RHV > PSY$					
Food insecurity – anticipated (Never/Sometimes/Often) <i>n</i> (%)	57 (77.0%)/13 (17.6%)/4 (5.4%)	47 (77.0%)/12 (19.7%)/2 (3.3%)	29 (39.2%)/28 (37.8%)/17 (23.0%)	29 (46.8%)/25 (40.3%)/8 (12.9%)	54 (69.2%)/15 (19.2%)/9 (11.5%)	51 (72.9%)/11 (15.7%)/8 (11.4%)
	Group: Wald $\chi^2_{(2)} = 24.15, p < 0.001, RHV > PSY, CTL$ Time: Wald $\chi^2_{(1)} = 1.75, p = 0.19$ Group \times Time: Wald $\chi^2_{(2)} = 1.22, p = 0.55$					
Food insecurity – difficulty obtaining (none/some/much) <i>n</i> (%)	56 (%) / 13 (%) / 5 (%)	57 (%) / 6 (%) / 3 (%)	32 (%) / 34 (%) / 9 (%)	43 (%) / 17 (%) / 3 (%)	52 (%) / 19 (%) / 9 (%)	56 (%) / 15 (%) / 3 (%)
	Group: Wald $\chi^2_{(2)} = 14.24, p = 0.001, RHV > PSY, CTL$ Time: Wald $\chi^2_{(1)} = 14.77, p < 0.001$ Group \times Time: Wald $\chi^2_{(2)} = 1.34, p = 0.51$					

well-being than CTL and PSY (p 's ≤ 0.003). There were no group differences regarding propensity to plan for finances ($p = 0.19$). Although the Federal direct payment stimulus programme was viewed favourably by the participants, there was a significant main effect of Group ($p = 0.02$), such that RHV viewed the programme most favourably, and significantly differed from CTL ($p = 0.02$). The effect of Time and Group \times Time interaction were not significant ($p \geq 0.88$). Most participants (76.2%) had received a direct stimulus payment at the baseline assessment, and the proportion did not significantly differ across the groups ($p = 0.09$). Participants indicated that they planned to use the stimulus funds to help pay for expenses, including groceries, housing, and credit card debt. Approximately 15% of participants indicated they planned to save at least a portion of the stimulus funds.

To summarise, compared to CTL and PSY, RHV reported lower levels of financial well-being, but the three groups did not differ with

regard to propensity for financial planning. CARES Act direct payments were viewed favourably in all three groups, and especially so for RHV.

3.2.2 | Housing concerns

Overall, participants reported that they were satisfied with their current housing, and there was no significant effect of Group, Time, or Group \times Time interaction (p 's > 0.88). Most RHV and CTL participants reported that they were aware of state and county eviction moratoriums during the COVID-19 pandemic, but awareness of the moratorium was somewhat lower in the PSY compared to the other groups (p 's < 0.05). Notably, few participants reported that they had concerns about their housing when the eviction moratorium ends, and there were no significant effects of Group, Time,

or Group \times Time interaction on eviction concerns (p 's ≥ 0.26). At baseline, 13 participants (5.7%) reported that they had delayed or withheld rent payment, and 7 (3.5%) delayed or withheld rent at follow-up 1. There was a main effect of Group, the main effect of Time, and a Group \times Time interaction effects (p 's < 0.001). Compared to the other two groups, a greater proportion of RHV delayed or withheld rent payment (p 's ≤ 0.04), and the proportion of participants delaying or withholding rent payments was greater at baseline compared to follow-up 1 ($p = 0.004$). The interaction effect appears to be driven by a relative disproportionate reduction in delayed/withheld rent payments at follow-up in the CTL group that did not reach statistical significance ($\chi^2_{(1)} = 1.49, p = 0.22$).

3.2.3 | Hardships

At baseline, we queried about the presence of a number of negative financial shocks (e.g., sudden job loss, large unexpected expenses). The proportion of participants who endorsed experiencing one or more negative financial shocks significantly differed across groups ($p < 0.001$), with a greater proportion of CTL reporting financial shocks compared to RHV and PSY, and a greater proportion of RHV reporting financial shocks compared to PSY (p 's < 0.05). There was a significant effect of Group on self-reported experience of material hardships ($p < 0.001$), with a disproportionate number of RHV reporting experiencing at least one material hardship compared to PSY and CTL (p 's < 0.05). The main effect of Time was also significant ($p = 0.02$), with a smaller proportion of participants endorsing material hardships at follow-up compared to the baseline assessment. The Time \times Group interaction effect was not significant ($p = 0.24$).

At both assessment points, we queried food insecurity, including concerns about running out of food (i.e., an anticipated shortage), and whether participants experienced difficulties actually obtaining the food they need. There was a main effect of Group for anticipated food shortage ($p < 0.001$), with a greater proportion of RHV reporting concerns compared to the other two groups (p 's = 0.001). The main effect of Time and Group \times Time interaction was not significant (p 's ≥ 0.19). For difficulties actually obtaining food, there was a main effect of Group ($p = 0.001$), with a higher proportion of RHV endorsing difficulties obtaining food compared to the other two groups (p 's ≤ 0.02). There was also a main effect of Time, reflecting that a smaller proportion of participants endorsed difficulties actually obtaining food at the follow-up assessment ($p < 0.001$). The Group \times Time interaction was not significant ($p = 0.51$).

Thus, CTL was most vulnerable to experiencing negative financial shocks, while RHV were most vulnerable to experiencing material hardships and food insecurity, both for anticipated and actual food shortage. Contrary to expectations, PSY did not experience disproportionate hardships compared to CTL. While the proportion of participants across groups reporting material hardships and actual food shortage significantly declined at the follow-up assessment, the proportion of participants expressing concern about an anticipated food shortage did not.

4 | DISCUSSION

In this study, we investigated experiences and challenges during the COVID-19 pandemic for three socioeconomic factors (financial concerns, housing concerns, and experience of hardships) in two putatively vulnerable Veteran groups (i.e., Veterans with PSY, recently housed Veterans) and control Veterans. All groups of Veterans reported socioeconomic challenges during the pandemic, but the pattern of effects differed across groups.

The RHV reported that they were struggling during the pandemic. Although RHV was in a similar position to the PSY group with respect to their personal finances (e.g., monthly income, expenses, and balances), they reported significantly lower levels of financial well-being at each assessment. Specifically, the RHV group felt less secure with their financial situation and less prepared to weather economic setbacks compared to PSY and CTL Veterans. Moreover, RHV were more prone to experiencing material hardships and food insecurity compared to the other two groups and were more likely to experience negative financial shocks compared to PSY. Although difficulty obtaining food improved over time, anticipatory anxiety about food shortage did not. The latter finding is consistent with the psychiatric features in which all groups reported increased anxiety early in the pandemic (Wynn et al., 2021). Thus, hardships and food insecurity are a target for service providers working with RHV. In addition, beyond increased access to sources of financial and instrumental support, all Veterans, but RHV in particular, may benefit from referral to programmes geared toward improving financial well-being (e.g., The Department of Defense Financial Readiness Network, The Financial Literacy and Education Commission Planning & Budgeting Tools, Military Saves Financial Planning, etc.).

We predicted that the PSY group would be particularly vulnerable to negative socioeconomic experiences during the pandemic. However, in many respects, this group was managing much better than expected and did not differ from CTL Veterans on several of the socioeconomic variables we assessed. This may reflect longstanding engagement with services and receipt of benefits that could serve to buffer the socioeconomic impact of the pandemic, for example, having stable sources of income from VA and Federal benefits, placement in a supported living environment, and/or having a fiduciary to manage personal finances.

The CTL Veterans were most vulnerable to experiencing negative financial setbacks, such as an expensive home or vehicle repair, or a sudden loss of wages. This finding may reflect that the CTL Veterans had greater exposure to sources of risk for financial shock compared to the other two groups. For example, the CTL Veterans were more likely to be employed and were more likely to be a homeowner, and thus perhaps, there were more opportunities to experience a financial shock in these areas.

Notably, Veterans in this study did not express significant concerns about losing their housing during the pandemic. This may partly reflect the unexpected increase in provider contacts and supports that some VA service users experienced during the pandemic as the VA rapidly moved to offer behavioural and

social services virtually (Rosen et al., 2021), including in the HUD-VASH programme (Juttkowitz et al., 2021). This finding may also reflect the early adoption of an eviction moratorium at the state and county level in CA, which was reinforced by a federal eviction moratorium by the Centers for Disease Control and Prevention, and hence these findings may not be representative of the experiences of Veterans throughout the rest of the country. Indeed, although the full impact of COVID-19 on housing in the US has not yet been determined, homelessness may increase in the wake of the pandemic (Congressional Research Service, 2020), and there have been public concerns about increased homelessness and mortality among vulnerable populations during and after the pandemic (Lima et al., 2020; Tsai & Wilson, 2020). Notably, lack of concern about losing housing may not reflect the objective likelihood of whether or not one is at risk for homelessness in the near future. Indeed, it is possible that a person could be at heightened risk to lose their housing (e.g., falling behind in rent payments), but fails to recognise or acknowledge this risk (e.g., due to difficulties with planning and foresight). Although relatively few participants endorsed delaying or withholding rent payments at the baseline and follow-up assessment, RHV were disproportionately represented. With the longitudinal follow-up data, we will examine associations with housing insecurity and outcomes as the pandemic unfolds.

Limitations of this study include reliance on self-reported socioeconomic data and excessive missing data for personal finances due to a reluctance by some participants to disclose their financial information. In addition, the absence of a "pre-COVID" baseline renders it difficult to make causal inferences regarding the socioeconomic impact of COVID-19 on Veterans. However, with the longitudinal follow-up data, we plan to examine trajectories and predictors of positive and negative socioeconomic outcomes, including baseline level of community integration and engagement in supportive services.

The findings of this study may not generalise to non-Veterans, especially since Veterans have access to support and resource through the VA. Veterans are a distinct sub-population of US adults given that they receive healthcare and support services within a nationalised service that emphasises evidence-based practices. In addition, while the HUD-VASH housing assistance programme is similar to the HUD Section 8 programme, the VA offers programmes, services, and supports to address homelessness among Veterans that are not available to civilians facing homelessness. Notably, approximately half of the CTL Veterans were receiving VA Service-Connected Benefits for illnesses or injuries sustained during their military service. Thus, while the CTL Veterans are likely representative of middle-aged Veterans without severe mental illness or homelessness who are also enrolled in VA services, they may not be representative of middle-aged civilian adults. Regarding similarities to the general population, we would anticipate that individuals who are eligible for disability benefits would make similar financial decisions regardless of whether the benefits were administered by the Veterans Benefits Administration or through the Social Security

Administration. Finally, we selected two groups of Veterans (i.e., PSY and RHV) based on vulnerability factors. Specifically, we posited that adversities that are frequently observed in both groups, cognitive impairment and poor community integration, make navigating pandemic-related socioeconomic challenges more difficult. While impaired cognition and poor community integration are very common in these two groups of Veterans, we acknowledge that these problems are not exclusive to homelessness or PSY.

In conclusion, these data suggest that Veterans have faced significant socioeconomic challenges during the COVID-19 pandemic. Recently housed Veterans disproportionately experienced financial concerns and material hardships, including marked food insecurity. These hardships are a target for intervention by VA clinicians and service providers. Moreover, this group reports lower levels of financial well-being and thus may benefit from referral to financial literacy programmes. In contrast, Veterans with PSY generally fared better than anticipated and did not differ from the Control Veterans in many respects. This may reflect longstanding engagement with VA services and receipt of benefits that could serve to buffer the socioeconomic impact of the pandemic, and as a result, the finding may not generalise to non-Veterans with PSY.

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AUTHOR CONTRIBUTIONS

All the authors contributed to the study design. AM and JKW supervised data collection. AM and JKW processed the data, and AM conducted the data analysis. AM conducted the literature review, wrote the first draft of the manuscript, and revised the manuscript for publication. JKW, DN, EAR, JT, and JT reviewed and edited the manuscript. All the authors have made substantial contributions and have read and approved this manuscript.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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