Destigmatising mental health treatment and increasing openness to seeking treatment: randomised controlled trial of brief video interventions

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Background
Despite an elevated risk of psychopathology stemming from COVID-19-related stress, many essential workers stigmatise and avoid psychiatric care. This randomised controlled trial was designed to compare five versions of a social-contact-based brief video intervention for essential workers, differing by protagonist gender and race/ethnicity.

Aims
We examined intervention efficacy on treatment-related stigma (‘stigma’) and openness to seeking treatment (‘openness’), especially among workers who had not received prior mental healthcare. We assessed effectiveness and whether viewer/protagonist demographic concordance heightened effectiveness.

Method
Essential workers (N = 2734) randomly viewed a control video or brief video of an actor portraying an essential worker describing hardships, COVID-related anxiety and depression, and psychotherapy benefits. Five video versions (Black/Latinx/White and male/female) followed an identical 3 min script. Half the intervention group participants rewatched their video 14 days later. Stigma and openness were assessed at baseline, post-intervention, and at 14- and 30-day follow-ups. Trial registration: NCT04964570.

Results
All video intervention groups reported immediately decreased stigma (P < 0.0001; Cohen’s d = 0.10) and increased openness (P < 0.0001; d = 0.23). The initial increase in openness was largely maintained in the repeated-video group at day 14 (P < 0.0001; d = 0.18), particularly among viewers without history of psychiatric treatment (P < 0.0001; d = 0.32). Increases were not sustained at follow-up. Female participants viewing a female protagonist and Black participants viewing a Black protagonist demonstrated greater openness than other demographic pairings.

Conclusions
Brief video-based interventions improved immediate stigma and openness. Greater effects among female and Black individuals viewing demographically matched protagonists emphasise the value of tailored interventions, especially for socially oppressed groups. This easily disseminated intervention may proactively increase care-seeking, encouraging treatment among workers in need. Future studies should examine intervention mechanisms and whether linking referrals to psychiatric services generates treatment-seeking.

Key words
Essential workers; COVID-19; openness to seeking treatment; stigma; intervention.

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Essential workers are employed in critical occupations considered indispensable for daily life (e.g. food service, transport and construction). According to recent research, essential workers have higher prevalence of anxiety and depressive disorders owing to the continuing stress of the COVID-19 pandemic. Increased workload, isolation from family and friends, emotional exhaustion and fear of viral transmission are among the reasons for increased psychopathology. Importantly, essential workers do not have the option to work from home and cannot afford to lose their jobs. Thus, they are exposed daily, sometimes unwillingly, to increased risk of infection. Moreover, Black and Latinx adults represent large proportions of essential workers in the USA; evidence suggests that members of underserved racial and ethnic groups have lower access to mental healthcare and often report more persistent and impairing depressive symptoms than non-Latinx individuals. These underserved groups are disproportionately affected by the pandemic, which raises their risk of mental health problems. Most research in this area has focused on healthcare workers; other essential workers have been relatively neglected.

There are many structural and other barriers to service use among essential workers and underserved racial and ethnic groups, including constraining work conditions and limited insurance. Another important obstacle is stigma towards mental healthcare. Treatment-related stigma involves perceiving mental-healthcare-seeking as weakness, anticipating negative attitudes from friends and families, and fearing discrimination from colleagues. Therefore, applying effective interventions to reduce treatment-related stigma and promote treatment-seeking may increase the likelihood that essential workers access care and may mitigate the risk of chronic, debilitating mental health problems.

Previous research has shown that social-contact-based interventions are most effective in reducing stigma and increasing openness to seeking treatment. Social-contact-based interventions involve...
interaction with an empowered presenter with lived experience who
describes coping successfully with distress and attaining their
desired goals. Individuals interacting with these empowered presenta-
tors show decreased prejudice and discrimination related to mental
health.14,16 Recent studies have reported that video-based social
contact interventions have similar efficacy to in-person interven-
tions in reducing stigma.17,18 Video-based interventions have the
advantages of cost-effectiveness, scalability, replicability and ease
of dissemination.19

Recently, our team demonstrated the efficacy of social-contact-
based brief video interventions in increasing openness to seeking
treatment for mental health conditions among US healthcare
workers (n = 350)20 and military veterans (n = 172).21 In some cases,
we found greater efficacy when the viewer and the protagonist
shared sociodemographic characteristics such as gender, race/ethnicity
and occupation, possibly by enhancing viewers’ identification
and emotional engagement with the video protagonist.20–22 These explora-
tory studies were the first to employ such an intervention and demon-
strate its effect on openness to seeking treatment. Nonetheless, they
had limitations, which the present study aims to address.

First, the studies tested the intervention’s efficacy only among
healthcare workers and veterans, who differ from non-healthcare
essential workers in having greater awareness of mental illness
and greater access to care, respectively. To our knowledge, no pre-
vious study has examined the efficacy of such interventions
among non-healthcare essential workers. Second, in each of the
prior studies, we used a single video of a White woman or man,
so we were unable to test the impact of gender or ethnoracial con-
cordance between viewers and protagonists on the intervention
effect among diverse groups of viewers. Third, both studies lacked
data about treatment-related stigma and prior mental health treat-
ment, which are crucial for understanding baseline perceptions and
changes in openness to seeking treatment. Finally, the previous
samples may have been underpowered to detect lasting interven-
tional effects at 30-day follow-up or in specific subgroups, such as
participants without history of mental health treatment.

We conducted a randomised controlled trial to test the efficacy
of five versions of a brief video-based intervention, differing by pro-
tagont gender and/or race/ethnicity, in reducing treatment-related
stigma and increasing openness to seeking treatment in a larger
sample (n = 2739) of US non-healthcare essential workers. Essential
workers were randomly assigned to one of the video inter-
ventions or to a video control group. Assessments of treatment-
related stigma and openness to seeking treatment were conducted
at baseline, immediately post-intervention, and at 14- and 30-
day follow-ups. Among the intervention groups, half of the participants
viewed the same video again on day 14. We hypothesised that:
(a) the brief video-based intervention would have the immediate
and, on re-viewing, repeated effect of reducing treatment-related
stigma and increasing openness to seeking treatment compared
with the control condition; (b) viewing the video twice would be
associated with greater durability of effect compared with viewing
it once and with the control condition; (c) participants without
history of treatment would experience greater intervention effects;
and (d) viewer–protagonist concordance with respect to gender
and/or race/ethnicity would yield greater effects on stigma reduc-
tion and openness to seeking treatment.

Method

Participants and recruitment

Participants were recruited through Prolific, a crowdsourcing tool
frequently used in medical and psychology research with worldwide
evidence of validity across tasks.23 Prolific ensures respondent

consistency in demographic responses over time, blocks those
who use tools to hide their location, runs checks to identify fake par-
ticipants and creates anonymous respondent IDs. To further verify
the validity and accuracy of the study’s results, we excluded partici-
pants who answered the survey more than once and added a timer
to ensure that respondents read the instructions (5 s minimum) and
watched the video (170 s) before the ‘next’ button appeared. We also
excluded respondents who failed our attention-testing questions
(e.g. ‘In the following question, please choose the second answer’).

Recruitment took place during August and September of 2021.
We only included essential workers who were aged 18–80 years,
English-speaking and US residents. We defined ‘essential work’ as:
(a) non-healthcare-related indispensable occupations (e.g. manu-
facturing, construction, transportation, food industry, hospit-
ality and non-healthcare emergency services); (b) occupations that
required daily travel to work during the COVID-19 pandemic.
Participants were compensated $9 for study participation. The
authors assert that all procedures contributing to this work
comply with the ethical standards of the relevant national and insti-
tutional committees on human experimentation and with the
Helsinki Declaration of 1975, as revised in 2008. All procedures
involving human subjects/patients were approved by the
New York State Psychiatric Institute Institutional Review Board
(#8128). Before study entry, participants reviewed an informed
consent form. Those agreeing to participate completed the study
procedures via Qualtrics.com, a secure, online data-collection
platform.

Procedure

Participants were randomised to either video intervention or video
control groups. The video intervention group included five brief
video versions, which varied by the race/ethnicity and gender of the
protagonist – Black female, Latinx female, Latinx male, White
female and White male. Participants were evenly divided between
the Black, Latinx and White protagonists. The control group
watched a same-length video featuring nature views and horses,
accompanied by relaxing music. The pre-intervention survey
included demographic and COVID-19-related information, and
questionnaires assessing treatment-related stigma and openness to
seeking treatment. The post-intervention survey, conducted imme-
diately after the intervention, included the same assessments of
treatment-related stigma and openness to seeking treatment as
the baseline survey. Fourteen days later, half of the participants in
the intervention groups rewatched the same video (‘repeated
video’), whereas the remaining participants had no additional
intervention (‘video’). Follow-ups included assessment of treat-
ment-related stigma and openness to seeking treatment and were
conducted at 14 and 30 days post-intervention (see CONSORT
checklist in the supplementary material, available at https://doi.
org/10.1192/bjo.2022.575).

Intervention

The intervention included five brief videos, each roughly 3 min
long, that presented an identical, scripted story of an essential
worker. The only difference across videos was the protagonist’s
race/ethnicity and gender. Protagonists described their difficulty
coping with life stressors, how they experienced symptoms of
anxiety and depression during the pandemic, and prior misconcep-
tions about treatment, and how they overcame them. The protago-
nists described benefiting from social support and mental health
therapy and how it helped them cope with their stressors. They all
concluded with a supportive, encouraging statement: ‘I have
become calmer, more in control. I started to enjoy the little things
and become myself again. I really wish I would have spoken with


someone sooner’. The five videos are available through video links in Supplementary Appendix 1.

**Instruments**

We measured treatment-related stigma with the Self-Stigma of Seeking Help (SSOSH-3) scale. The three items were: ‘It would make me feel inferior to ask a therapist for help’, ‘I would feel inadequate if I went to a therapist for psychological help’, and ‘If I went to a therapist, I would be less satisfied with myself’. Response choices ranged from 1 (strongly disagree) to 5 (strongly agree). Total scores ranged from 3 to 15, with lower scores indicating less stigma. In this study, Cronbach’s alpha was 0.87.

Opportunity to seek treatment was determined by the three ‘opportunity to help-seeking’ items from the Attitude Towards Seeking Professional Psychological Help (ATSPPH) scale – Short Form. The items were: ‘I would want to get psychological help if I was worried or upset for a long period of time’, ‘I might want to have psychological counseling in the future’ and ‘A person with an emotional problem is not likely to solve it alone; they are more likely to solve it with professional help’. Responses ranged from 1 (disagree) to 4 (agree), for a total score of 3 to 12, with higher scores indicating greater openness to seeking treatment. In this study, Cronbach’s alpha was 0.83.

**Data analysis**

Pearson’s χ² and one-way analysis of variance (ANOVA) were used to compare sociodemographic and COVID-19-related characteristics across the five versions of the video intervention group and the control group, and independent t-tests were used to compare SSOSH (stigma) and ATSPPH (openness to treatment) scores between video intervention and control groups. Intervention effects were examined using generalised estimating equations (GEE), as recommended for randomised controlled trials. The GEE approach represents correlated repeated-measures analysis and calculates missing data via estimated marginal means based on the whole sample. It includes all randomised participants providing data for at least at one time point. To account for within-responder dependencies in the models, we specified an unstructured correlation matrix. We applied a full factorial model across the four time points (baseline, immediately post-intervention, 14 day and 30 day follow-ups) for the SSOSH and ATSPPH. To test our first hypothesis, we examined the immediate and repeated effects (video versus control) with time-by-group interaction terms. Using the GEE model, we tested the 14-day video effects (single video versus repeated-video versus control), addressing our second hypothesis about durability of effects. For the third hypothesis, we first conducted a one-way ANOVA examining whether baseline SSOSH and ATSPPH mean scores of each participant subgroup (reporting past therapy, current therapy or no prior therapy) significantly differed. We then conducted the same GEE analysis separately for each subgroup. For the fourth hypothesis, we tested whether viewer–protagonist concordance in gender and/or race/ethnicity yielded a greater effect among respondents (i.e. female viewers watching female protagonists versus females watching males, or Black viewers watching a Black protagonist versus Black viewers watching White or Latinx protagonists). We conducted two sets of analyses, first addressing concordance by gender and then concordance by race/ethnicity. The sample size was not large enough to address the intersectionality of gender and race/ethnicity simultaneously (e.g. Black female watching a Black female protagonist). To test the gender-concordance hypothesis, we expanded the GEE model to include fixed effects for the participant’s and protagonist’s genders and their interaction and the full factorial interaction of these with video condition and time; this allowed us to test for differential effects for each participant’s gender as a function of protagonist gender immediately following the video or the repeated video, and any lasting effects. Contrasts measuring the concordance effect were formed specifically for gender and overall; that is, we obtained a concordance effect specifically for women separately from a concordance effect for men (gender-specific concordance) and we formed an overall gender-concordance effect (i.e. females watching females aggregated with males watching males) contrasting with overall gender discordance (females watching males plus males watching females). Participants who indicated their gender to be other than male or female were excluded from this analysis owing to small numbers. Similar analyses were conducted to test the concordance hypothesis by race/ethnicity, including a fixed effect for participant and actor race/ethnicity. These analyses were limited to participants who self-identified as Black, Latinx, or White so that concordance was possible, as the actors were limited to these races/ethnicities. In the race/ethnicity-concordance analysis, we also included the gender of the participant as a control variable to account for any confounding imbalance due to there being only a female Black actor (no male Black actor) condition. Finally, we ran all concordance analyses restricted to the subsample that had not previously received mental health treatment as we expected this group would have the largest effect sizes. Effect sizes are reported using Cohen’s d, when appropriate, obtained by scaling mean differences between treatment groups by the standard deviation of the measure across all groups at baseline. All statistical tests were two-sided, using α < 0.05.

We collected data on clinical symptoms including level of self-reported anxiety and depression. We found no association between symptom severity and intervention effect on stigma or treatment-seeking response.

**Results**

**Sample characteristics**

Of the recruited sample, 195 (7%) individuals failed validity tests and were excluded from analyses. The final sample included 2374 essential workers (62% female, M_age = 27.1 ± 9.3 years, range 18–73) who completed the baseline and post-intervention assessments. Of those, 80% (n = 1955) completed the 14-day assessment and 72% (n = 1955) completed the 30-day assessment (Fig. 1). Groups did not differ on demographic and COVID-19-related characteristics. Baseline characteristics did not differ between study completers and non-completers. Table 1 presents the race and ethnicity, essential occupations and COVID-19-related characteristics of participants. Figure 2 illustrates participants’ geographic distribution.

**Intervention effects**

Stigma scores for full group

Figure 3 presents the GEE model results for stigma (SSOSH) scores. Groups did not differ significantly on baseline mean scores (video: 5.8 [95% CI: 5.7, 5.9]; control: 5.8 [5.5, 6.1]; independent t-test: t = 0.08, P = 0.94). A significant group-by-time interaction emerged (χ² = 24.0, d.f. = 1, P < 0.0001) for an immediate effect (baseline to post-intervention change: 0.28 [0.17, 0.39]; Cohen’s d = 0.10). We found no group-by-time interaction for the repeated-video effect, nor any lasting effects at 14-day or 30-day follow-up for the intervention groups.

Openness to seeking treatment scores for full group

Figure 4(a) presents the GEE model results for openness to seeking treatment. The groups did not differ on baseline mean ATSPPH...
scores (video groups: 9.6 [9.5, 9.7]; control group: 9.7 [9.4, 9.9]; independent t-test: t = 0.70, P = 0.48). Analyses showed a group-by-time interaction (χ² = 74.7, d.f. = 1, P < 0.0001; Cohen’s d = 0.23) for an immediate effect (baseline to post-intervention change: 0.48 [0.37, 0.59]) and a group-by-time interaction (χ² = 18.4, d.f. = 1, P < 0.0001; Cohen’s d = 0.18) for the repeated-video effect (baseline to 14-day follow-up change: 0.38 [0.20, 0.55]). We found no significant difference between the magnitude of immediate and repeated-video effects (χ² = 1.5, d.f. = 1, P = 0.22). There was no lasting effect at 14-day follow-up for the single-video or at 30-day follow-up for the repeated-video groups. Hence, repeating the video led to no significantly greater durability of effect.

Openness to seeking treatment scores by therapy status

We repeated the above-described GEE analysis separately based on treatment status in line with participants’ answers to ‘Have you sought psychological counseling?’, with answers/groups being ‘no prior therapy’, ‘past therapy’, or ‘current therapy’ (Fig. 4(b)). Baseline ATSPPH scores differed significantly across the three groups: no prior therapy: 8.7, [8.6, 8.9]; past therapy: 10.2 [10.1, 10.3]; current therapy: 11.2 [11.1, 11.3]; one-way ANOVA: F = 224.4, P < 0.0001. Participants without prior therapy showed a group-by-time interaction (χ² = 65.3, P < 0.0001; Cohen’s d = 0.32) for an immediate effect (baseline to post-intervention change: 0.69 [0.52, 0.85]) and a group-by-time interaction (χ² = 29.2, d.f. = 1, P < 0.0001; Cohen’s d = 0.33) for a repeated-video effect (baseline to 14-day follow-up change: 0.70 [0.44, 0.95]). Participants reporting therapy in the past but not currently showed a group-by-time interaction (χ² = 15.0, d.f. = 1, P < 0.0001; Cohen’s d = 0.16) for the immediate-video effect only (baseline to post-intervention change: 0.35 [0.17, 0.53]). Participants who reported currently receiving therapy already had near-maximal scores and showed no immediate intervention effects. There was no lasting effect at 14-day follow-up for the single-video or at 30-day follow-up for the repeated-video for any subgroup.

Stigma and openness to seeking treatment scores by concordance in gender or race/ethnicity

In the full sample, protagonist gender or race/ethnicity did not influence changes in outcome of stigma and/or openness to seeking treatment. However, among respondents with no prior treatment, concordance between the viewer’s and protagonist’s gender and/or race/ethnicity yielded a greater effect in some groups (Supplementary Appendix 2 and 3). For example, regarding treatment-related stigma, overall gender concordance (i.e. female-watching-female plus male-watching-male) yielded a greater immediate decrease in stigma scores. Females watching female protagonists showed greater decreases in SSOSH scores than females watching male protagonists (concordant – baseline to post-intervention change: 0.40 [0.10], P < 0.0001, Cohen’s d = 0.15; discordant – baseline to post-intervention change: 0.32 [0.10], P < 0.0001, Cohen’s d = 0.15).
Males watching male protagonists showed greater decreases in SSOSH scores than males watching female protagonists (0.38 [0.15], $P = 0.01$, Cohen’s $d = 0.14$ vs. 0.16 [0.14], $P = 0.25$, Cohen’s $d = 0.06$), between-group change (discordant $v.$ concurrent): 0.22 [0.19], $P < 0.009$, Cohen’s $d = 0.08$.

Regarding openness to seeking treatment, females watching female protagonists showed greater increases in ATSPPH scores than females watching male protagonists (0.75 [0.12], $P < 0.0001$, Cohen’s $d = 0.35$ vs. 0.49 [0.13], $P < 0.0001$, Cohen’s $d = 0.23$; between-group change: 0.26 [0.10], $P < 0.001$, Cohen’s $d = 0.12$). However, males watching male protagonists did not show any greater increase in ATSPPH scores than males watching female protagonists (0.66 [0.16], $P < 0.0001$, Cohen’s $d = 0.31$ vs. 0.75 [0.14], $P < 0.0001$, Cohen’s $d = 0.35$; between-group change: −0.09 [0.10], $P = 0.50$).

Regarding ethnoracial concordance, no concordance effect was found for treatment-related stigma (SSOSH). For openness to

![Fig. 2 Essential workers’ geographic distribution (August–September 2021).](image-url)
seeking treatment, Black participants viewing Black protagonists showed greater immediate increases in ATSPPH scores than Black participants viewing non-Black protagonists (1.57 [0.44], P < 0.001, Cohen’s d = 0.73 v. 0.72 [0.37], P = 0.05, Cohen’s d = 0.34; between-group change: 0.85 [0.35], P = 0.01, Cohen’s d = 0.39). We found a similar pattern for the repeated-video effect (1.63 [0.65], P = 0.01, Cohen’s d = 0.76 v. 0.78 [0.63], P = 0.21, Cohen’s d = 0.36; between-group change: 0.85 [0.35], P = 0.04, Cohen’s d = 0.42). No concordance effect was observed for Latinx–Latinx or White–White pairings.

**Discussion**

Our randomised controlled trial tested the efficacy of five versions of a brief video intervention differing by protagonist gender and/or race/ethnicity in reducing treatment-related stigma and increasing openness to seeking treatment among 2734 essential workers. In brief (3 min) videos, essential workers described their emotional struggles during the COVID-19 pandemic and how mental health treatment helped them cope. As hypothesised, viewing any of the five versions of the video intervention led to immediate decreases in treatment-related stigma and increases in openness to seeking treatment compared with the control condition. The initial increase in openness to seeking treatment was largely maintained in the repeated-video group at day 14. These findings replicate our previous pilot studies in several important ways. First, its larger sample size (n = 2734) allowed us to study this underserved group that has been disproportionately affected by the COVID-19 pandemic and faces an increased risk of mental health problems.27–30 This is the first study to show such an effect among non-healthcare essential workers. Second, we
assessed intervention effects on stigma, a key deterrent to treatment-seeking, showing an immediate effect not only in increasing openness to seeking treatment but also in decreasing treatment-related stigma. We found a greater effect among respondents who had never sought or received treatment (53% of the sample), thus strengthening the intervention effect and emphasising its necessity within this in-need subgroup. Last, we tested five versions of the video intervention, altering the gender and race/ethnicity of the protagonist, thus increasing both external and internal validity.

Although results showed that the intervention had an immediate impact, no lasting effect emerged: effects did not persist at 14 day follow-up after a single video, or at 30 day follow-up following the repeated video. These findings corroborate those of other intervention studies among healthcare workers, mainly using non-contact-based educational programmes, which also showed no lasting effects. Perhaps, instead of expecting longer durability of a brief video effect, the goal should be to augment the immediate effect on openness to seeking treatment and focus on how this can be leveraged to create behaviour change. The short-term increase in openness to seeking treatment, which our follow-up data show can be repeated, creates a time-limited window of opportunity to connect essential workers with mental health services. Short video marketing research shows that video platforms that introduce an actionable function to focus the desired intention change (e.g. a linkable shopping cart on commercial advertisements) have significantly increased efficacy compared with identical videos lacking this function. For healthcare access, adding a referral to crisis counsellors or an option to connect with a therapist might engage in-need essential workers with mental health services.

![Graph](image.png)
Treatment-related stigma and treatment-seeking perceptions are not the only barriers to care for essential workers. Structural and other barriers to healthcare significantly impede access to timely care.2,3 Such issues are longstanding and are likely to remain well beyond this pandemic. Telehealth and digital solutions can be key strategies in linking mental health services to essential workers.3,4,5 For example, interventions informed by cognitive-behavioural therapy, delivered by mobile apps, may help address infrastructure barriers to accessing care.6 However, other studies show limited efficacy for such treatments.38

Limitations
This study had several limitations. First, the users of crowdsourcing platforms may differ sociodemographically from the essential worker population, limiting generalisability. Ethnoracially, however, our sample resembled the 2020 US census distribution fairly closely: 14% (study) vs. 16% (US) Hispanic/Latino, 66% vs. 64% non-Hispanic White, 10% vs. 12% non-Hispanic Black and 7% vs. 5% non-Hispanic Asian. Second, we did not assess a video featuring a Black male protagonist. Future studies should explore a wider range of gender and race/ethnicity, with sufficiently large samples to study their intersections. Third, we assessed openness to seeking treatment, a measure possibly influenced by social desirability.11 Unfortunately, no research to date, including our own, has measured effects on actual treatment-seeking behaviour. Last, our study may have lacked the power to detect concordance effects among Latinx and male groups. Future studies should explore whether greater tailoring creates a larger effect.

In summary, this randomised controlled trial replicated and extended our previous findings, showing positive effects of five versions of a social-contact-based brief video intervention, differing with respect to protagonist gender and/or race/ethnicity, especially among essential workers who had received no prior treatment. The 3 min videos showed a modest effect size of reduced treatment-related stigma and increased immediate openness to seeking treatment, with greater effects among female and Black viewers who watched protagonists with matching sociodemographic characteristics. Policy makers and employee assistance programmes should consider using such easily disseminatable interventions to proactively encourage essential workers to seek help and to provide mental health services to those needing them. Future studies should examine the mechanisms of action of these brief video interventions and whether links to referrals could foster immediate behavioural change.

Supplementary material
Supplementary material is available online at http://doi.org/10.1192/bjo.2022.575.

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

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Author contributions
D.A. wrote the first draft of this manuscript. D.A., Y.N., L.D. and A.F. coordinated the trial, contributed to the design and implementation of the trial, and collected the data. D.A., Y.N., L.D., R.L.F., M.W. and S.H. developed the video intervention. D.A., J.L. and M.W. performed the statistical analyses. D.A., M.W., J.L., C.F., M.H., M.L., R.L.F., Y.N., L.D. and S.H. interpreted the results and drafted the manuscript. All authors reviewed and approved the manuscript.

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Declaration of interest
None.

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