Current Psychology
https://doi.org/10.1007/s12144-024-05764-5

Social support and help-seeking worldwide

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Accepted: 13 February 2024

Abstract

Social support has long been associated with positive physical, behavioral, and mental health outcomes. However, contextual factors such as subjective social status and an individual's cultural values, heavily influence social support behaviors (e.g., perceive available social support, accept support, seek support, provide support). We sought to determine the current state of social support behaviors and the association between these behaviors, cultural values, and subjective social support across regions of the world. Data from 6,366 participants were collected by collaborators from over 50 worldwide sites (67.4% or $n = 4292$, assigned female at birth; average age of 30.76). Our results show that individuals cultural values and subjective social status varied across world regions and were differentially associated with social support behaviors. For example, individuals with higher subjective social status were more likely to indicate more perceived and received social support and help-seeking behaviors; they also indicated more provision of social support to others than individuals with lower subjective social status. Further, horizontal, and vertical collectivism were related to higher help-seeking behavior, perceived support, received support, and provision of support, whereas horizontal individualism was associated with less perceived support and less help-seeking and vertical individualism was associated with less perceived and received support, but more help-seeking behavior. However, these effects were not consistently moderated by region. These findings highlight and advance the understanding of how cross-cultural complexities and contextual distinctions influence an individual's perception, processing, and practice of social support embedded in the changing social landscape.

Keywords Social support · Cross-cultural · Subjective social status · Regional · Cultural values

Since its discovery in 2019, the novel coronavirus disease (COVID-19) has been associated with unprecedentedly devastating changes (Bambra et al., 2021; Cascalheira et al., 2023). COVID-19 reminded the world of the value of social connection and having a sense of belonging. In particular, the pandemic was a reminder of the value of social support as a coping method during moments of grave threat (Galea et al., 2002; Szkody et al., 2021; Taylor, 2011). Most extant literature has demonstrated that individually, social support may have long-lasting positive effects on overall health (Thoits, 2011; Wright et al., 2022; Zimet et al., 1988). Broadly, social support has been shown to benefit social networks in sustaining community, resilience, and efficacy during times of stress (Ntontis et al., 2020). However, there have been instances in which social support may deteriorate after disasters (Kaniasty & Norris, 1993; Ntontis et al., 2020), such as COVID-19 (Costa et al., 2022). Research that describes the underlying mechanisms fostering social support behaviors (i.e., providing support to others, accepting support themselves, perceiving that support is available, and help-seeking) in specific temporal and cultural contexts, such as post-COVID-19 and cultural values, is lacking. It is imperative for public health and social science practitioners, researchers, and advocates to be guided by cross-cultural understanding in providing support (Burleson & Mortenson, 2003). Thus, the aim of this study is to examine how individuals' worldwide access, communicate, and process social support, considering contextual factors involved in the changing social landscape in a post-COVID-19 world.

Note Please see the Supplemental Materials for additional tables and references.

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Published online: 18 March 2024

Social support behaviors

Social support is a dynamic, interpersonal exchange of social resources between people. It can be emotional (e.g., verbal and nonverbal expressions of solidarity, love, and community), material (i.e., practical, financial, and physical help, financial aid), and informational (i.e., guidance, advice, and novel information for handling a stressor) and often depends on a given context (Hombrados-Mendieta & Castro-Travé, 2013; Melguizo-Garín et al., 2019; Ruiz-Rodríguez et al., 2021). Research investigating social support outlines the importance of distinguishing between perceived social support (e.g., believing someone will offer a hug a listening ear when in need; Gottlieb & Bergen, 2010) and received social support (i.e., resources that have or are currently being provided by formal or informal groups; Ferber et al., 2022; Melguizo-Garín et al., 2019; Mikulincer & Shaver, 2012; Taylor et al., 2004). In addition to the perception of available support and the reception of social support, help-seeking behavior and the provision of social support compose important factors in social support engagement. Help-seeking (i.e., defined as finding or seeking assistance to improve the present situation; Rickwood & Thomas, 2012) can occur formally, with professional sources of help (i.e., doctors), or it can take place informally, among friends and family (Rickwood et al., 2005). The provision of support (i.e., individual's behavior that extends available social resources to others) manifests through the sharing of resources, whether they be emotional, material, or informational, drawing upon individual and communal sources for support (Hombrados-Mendieta & Castro-Travé, 2013).

Social support across these constructs were similarly impacted by COVID-19 policies and in the current study we sought to determine the current state of these variables worldwide. Social support has the potential to offer comfort from loved ones and trusted people (Garcini et al., 2021); however, this potential might not always be realized, especially during times of social upheaval. The social landscape across cultural groups experienced unique changes due to the pandemic and resulted in changes to individual access to social support (Mathieu et al., 2020). For example, some cultural and regional groups experienced low COVID-19 numbers across the pandemic, while others fluctuated. By understanding the roles of perceived support, received, help-seeking, and provision of support, we may elucidate how social support may have evolved and adapted in response to the pandemic.

Social support from a cross-cultural lens

Literature regarding social support suggests that support behaviors are dependent on culture and context, informing how social support is subsequently perceived and shared (Burleson, 2003; Chentsova Dutton, 2012; Grossmann & Varnum, 2011; Taylor, 2011). For instance, researchers examining social support among individualistic and collectivistic valued cultures indicate that there may be cultural and contextual differences in motivation to engage in support behaviors, leading to different psychological and physiological responses (Adler et al., 2000; Burleson, 2003; Chen et al., 2012; Taylor et al., 2007). Several factors, such as relationship context, motives, goals of the recipient, and cultural beliefs and attitudes, may inform how social support is interpreted (Chentsova Dutton, 2012).

Emphasizing interdependence within a culture, individuals from collectivistic backgrounds may be predisposed to engage in supporting behaviors that foster group equilibrium rather than individual validation to ease stressful situations (Burleson & Mortensen, 2003; Chen et al., 2012; Taylor et al., 2007). For example, Asian and Asian American samples from collectivistic cultures tend to consider the potential relational implications of social support to a greater extent than their European American counterparts (Kim et al., 2006; Taylor et al., 2004; Taylor et al., 2007). Likewise, in collectivist cultures, social support often focuses on problem-solving rather than emotion-based support, which may stem from prioritizing group consensus in lieu of individual needs (Chen et al., 2012; Kim et al., 2006; Taylor et al., 2007). Perhaps, for communities with collectivistic identities, deviating from cultural norms and values motivates these communities to consider how best to react and support post-COVID-19.

Conversely, individualistic communities, which often prioritize individual beliefs, attitudes, and goals in relation to others (Kim et al., 2006; Kim & Markus, 1999; Kitayama & Uchida, 2005; Markus & Kitayama, 1991), may proactively seek social support that addresses these needs (Taylor et al., 2007). For instance, members of individualistic communities often emphasize the self, requiring more emotion-focused support that prioritizes emotional validation to buffer against stress (Burleson, 2003; Burleson & Mortenson, 2003; Chentsova Dutton, 2012; Taylor, 2011; Uchida et al., 2008). Given these variations, attending to cultural differences as one considers how best to provide and/or receive support appears to hold significant bearing on well-being and health (Uchida et al., 2008).

Subjective social status, socioeconomic status, and access to social support

Building on this idea, the availability and presence of diverse types of social support is contingent on a person's access to diverse individuals and communities (Verdery & Campbell, 2019; Wellman & Wortley, 1990). A person's belief about their subjective social status (SSS) refers to their social standing in each power hierarchy

(e.g., socioeconomic, educational, and family background; available resources; opportunities; and life circumstances; Singh-Manoux et al., 2003); past, current, and future social circumstances. Thus, although SSS and socioeconomic status (SES; education, income, and occupation) are distinct constructs, research has shown that they tend to be positively related (Diemer et al., 2013). Although both concepts seek to capture a person's position in a social network, each construct measures separate effects on health, well-being, and social context (Diemer et al., 2013).

Both SSS and SES offer important perspectives on a person's access to resources, especially social support. Access to social support is influenced by SES, with research finding that younger and married persons with higher SES report higher perceptions of available support (Melchiorre et al., 2013). Indeed, one study concluded that poor social networks and low social support were more frequent among socioeconomically disadvantaged individuals (Weyers et al., 2008). Evidence suggests that higher SES and SSS is associated with a communal focus and greater access to social support, with socioeconomically advantaged individuals often reporting greater numbers of close ties, greater contacts with friends, and greater satisfaction with social support (Andreß et al., 1995; Kraus et al., 2012; Krause & Borawski-Clark, 1995; Weyers et al., 2008). Given the impact of SSS on social support behaviors and their interaction with cultural values, it is imperative that we examine the ways in which SSS is associated with social support in a post-pandemic world. Thus, in the current study we sought to fill the gap in the current literature on the current association between SSS and social support behaviors post-pandemic.

The current study

Therefore, the current study examined how individuals from across the world access (e.g., help-seeking), communicate (e.g., provide support), and process (e.g., perception of available support and report of received support) social support following the COVID-19 pandemic. Using globally collected data, we compared the impact of culture, SSS, and SES on social support provision, help-seeking, perception of available support, and received support. Specifically, changes were interpreted in the context of the COVID-19 pandemic, which were expected to have altered how individuals pursue, perceive, and process social support. Special attention was paid to disadvantaged communities with lower SES, who have been disproportionately impacted by recent world events.

General impact of world events hypotheses

We hypothesized that subjective social status (SSS) would be differentially associated with support behaviors (i.e., perceived availability of social support, received social support, and help-seeking) and cultural values (i.e., horizontal and vertical individualism, horizontal and vertical collectivism). Additionally, we hypothesized these results to be moderated by the culture of the region. For example, someone from a higher class or with higher SSS would demonstrate a greater agreement on levels of individualism in more individualistic countries as opposed to more collectivistic countries and vice versa.

Cultural context hypotheses

Consistent with previous research on the influence of culture (Burleson & Mortenson, 2003), we hypothesized that cultural values (i.e., horizontal and vertical individualism, horizontal and vertical collectivism) would be differentially associated with social support behaviors (i.e., perceived availability of social support, received social support, and help-seeking) and that these associations would be moderated by region.

Method

Procedure

A crowd-sourced data collection approach was used. Collaborators for Psi Chi NICE:CROWD Project were recruited to join the project via social media, Psi Chi NICE:CROWD Project released emails and advertisement, and through the Open Science Framework (OSF). Interested collaborators completed an independent Institutional Review Board (IRB) for their institution and submitted IRB approval to the Psi Chi NICE:CROWD Project Project Chair. All IRB approvals were stored in this project's OSF and include information on recruitment for each site, their informed consent, and all study materials. All materials were translated by the collaborators before dissemination of the survey. Translated languages included Italian, Serbian, Montenegrin, Turkish, Portuguese, and Ukraine using backward and forward translations https://osf.io/5s9na/ for detailed information). Each collaborator recruited participants through their institution's student research portals, in academic classrooms, and through social media (i.e., Instagram, Facebook, and Twitter). In cases of recruitment through an academic portal, students had the opportunity to receive research/class credit for completing the study but otherwise no other compensation was provided to participants. Participants were provided the opportunity to withdraw from the study at any time. If

participants chose to withdraw from the study, they were afforded the opportunity to have their existing data removed from data analysis. An a priori power analysis was completed for medium effect size (f2 = 0.15) and an alpha of 0.05, estimating that to adequately power up to 15 predictors for a linear regression model (the full moderation models suggested in the Hypotheses) we would need to recruit 199 individuals for each region of the world. A medium effect size was chosen based on previous literature that suggested a strong effect of cultural values on support behaviors (e.g., Burleson, 2003; Chentsova Dutton, 2012; Grossmann & Varnum, 2011; Taylor, 2011). Thus, each collaborator aimed to recruit at least 200 individuals from their region (sites with over 100 participants were included in data analysis). All participants were treated in accordance with APA ethical guidelines (American Psychological Association, 2017). Participants were provided with a link by project collaborators to complete the online survey. Before being presented with the survey itself, all participants were presented with an informed consent and indicated their consent by selecting the "next" button. All survey measures were completed in random order. All data was collected between October 2021 and June 2022.

Transparency and openness

The primary investigator completed a pre-registration for the project, which included consent and debrief documents, the survey to be completed by participants, and all proposed analyses for the project (see https://osf.io/5s9na/ for documentation). Materials and data are also available on the OSF: https://osf.io/5s9na/. All analyses were conducted using IBM's AMOS 27.0 and SPSS 27.0. All analyses were conducted by a group of researchers over online conferencing platforms. Once analyses were completed, a second team of researchers replicated the analyses with the syntax and data analysis plan to ensure quality control of the project.

Measures

Demographics

The demographics information included age, sex at birth, current gender identity, birth country (and state if applicable), current location country (and state if applicable), ethnicity, race, and sexual orientation.

Subjective social status

The MacArthur Scale of Subjective Social Status (MASSSS) measured subjective social status using an image that presents a ladder as a global indicator of subjective social status and was related to an individual's place in the social hierarchy (Adler et al., 2000). Participants were asked to rate their social status on a 10-step ladder, with those at the top often described as having the most money, the highest level of education, and the job that brings the most respect; at the bottom are the people who have the least money, least education, the least respected jobs/ no job. The MASSSS has been validated for use in studies in various countries and has also been shown to have satisfactory reliability in studies worldwide (e.g., Giatti et al., 2012; Sakurai et al., 2010). Validated translated versions were available in Spanish, Mandarin, Cantonese, Japanese, and other languages (Curhan et al., 2014; Ostrove et al., 2000). Scores were dummy coded so that scores of less than or equal to 5 indicated low subjective social status and scores of greater than 5 (a median split) indicated high subjective social status.

Cultural orientation

The Individualism and Collectivism Scale (also known as the Culture Orientation Scale; COS) is considered one of the most psychometrically reliable for measuring cultural values at the individual-level (Paquet & Kline, 2009; Triandis & Gelfland, 1998). The scale consisted of 16 items and involved the measurement of four dimensions: horizontal Individualism (HI; seeing oneself as totally autonomous and accepting that the ideal is equality between individuals); vertical individualism (VI; perceiving oneself as fully autonomous, but admitting that inequality will exist among individuals and tolerating that inequality); horizontal collectivism (HC; the individual perceives herself/himself as part of the collective, in particular, all members of the collective as equals); and vertical collectivism (VC; perception of oneself as part of a collective and willingness to accept hierarchy and inequality in this collective). All statements were evaluated using a 9-point scale. Items were summed separately to create VC, VI, HC, and HI subscale scores, higher scores indicated a high degree of the characteristic being measured. The original full versions of the questionnaire have demonstrated satisfactory reliability and validated translations in English, German, Russian, and more (Paquet & Kline, 2009; Sivada et al., 2008). The Cronbach's alpha for the overall sample was 0.74 (ranging from 0.71 to 0.78 between regions).

Perceived stress

The Perceived Stress Scale (PSS-10) was used to assess the perceived stress levels in the respondent's life (Cohen et al., 1983). The PSS-10 asks participants to indicate the extent to which they consider their life unpredictable, unmanageable and felt overloaded during the last month. The questionnaire consisted of 10 items indicating how often certain stressful events occurred during the last month. Each item was evaluated on a five-point scale. Several items were reverse- coded. Higher scores were indicative of higher stress levels. The questionnaire

has been shown to have a high level of internal consistency and reliability in previous studies and validated translations were available in Arabic, Bengali, English, Japanese, Korean, Czech, Vietnamese, Portuguese and more. (Cohen et al., 1983; Lee, 2012). Cronbach's alpha for the overall sample was 0.69 (ranging from 0.38 to 0.73 between regions).

Receiving and providing social support

The amount of social support participants regularly receives and provide to others was assessed with the Berlin Social Support Scales (BSSS). The BSSS is a battery of questionnaires developed by Schulz and Schwarzer (2003) to measure cognitive and behavioral aspects of social support. The Provided Support Subscale (BSSS-PS) and Received Support Subscale (BSSS-RS) were used in the current study. Each of the subscales consisted of 14 items. A 4-point scale was used for answers. The questionnaires have demonstrated satisfactory psychometric properties, as shown in previous works and previously validated translations were available in English, Deutsch, Polska wesja, Francais, and Espanol (Schulz & Schwarer, 2003; Schulz & Schwarer, 2004). Cronbach's alpha for the overall sample for the provided support scale was 0.83 (ranging from 0.80 to 0.85 between regions). The Cronbach's alpha for the overall sample for the received support scale was 0.90 (ranging from 0.89 to 0.93 between regions).

Help-seeking

Help-seeking behaviors were measured using the Coping Orientation to Problems Experienced Inventory (COPE; Carver et al., 1989). The current study used two subscales of COPE – instrumental social support and emotional social support. A 4-point response scale was used. The questionnaire has demonstrated satisfactory psychometric properties in previous studies and validated translations were available in English, Spanish, French, German, Greek, and Korean (e.g., Carver et al., 1989; Deisinger et al., 2003). The Cronbach's alpha for the overall sample was 0.88 (ranging from 0.87 to 0.89 between regions).

Perceived social support

The perception of available social support in a participant's life was assessed with the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988). In our study, respondents completed a questionnaire the consisting of 16 items with a 7-point response scale.Items were divided into groups relating to the source of support: mother figure, father figure, friends, and other special person). Each of these subscales consisted of four items. A result was obtained by summing up scores for each group. The higher the score, the greater the amount of perceived available social support. Previous studies have found that the MSPSS has good psychometric properties and validated translations were available in English, Spanish, Urdu, Hebrew, Tamil, Danish, Farsi (Persian), French, Italian, Korean, Lithuanian, Hausa, Norwegian, Simplified Chinese, Traditional Chinese, Slovene, Malay, Slovak, Spanish, Swedish, Polish, Portuguese, Romanian, and Thai (e.g., Zimet et al., 1988). The Cronbach's alpha for MSPSS in this study was 0.92 (ranging from 0.90 to 0.95 between regions).

Region

Participants were asked to identify their nationality and current location. A variable was created that coded each location by region according to the United Nations standard country or area codes for statistical use (M49 standard). These codes divide countries into six regional, 17 subregional, and nine intermediate regional groups (United Nations, 1999). Region was calculated by both nationality and current location. Region by nationality was used throughout the analyses.

Validation and bot detection

Throughout the survey, we initiated several validation and bot detection procedures. First, we collected metadata to examine whether IP addresses were duplicated, and duplicates were removed. Next, we asked participants to complete a CAPTCHA to detect or hinder bots from access to the survey. Responses that failed the CAPTCHA were removed from the survey. Then, individuals indicated their height and weight at the beginning of the survey using a drop-down menu and then once again at the end of the survey via free response. Responses where these two measurements did not match were removed from the analyses. Lastly, throughout the survey, individuals completed attention checks and honeypot questions (i.e., "*please select C*", "*Do not respond to this item and click the next button instead*"). Responses that failed the attention checks were also removed from analyses.

Data analyses

Outliers and statistical assumptions (e.g., normality, outliers, collinearity, reliability) were examined. Frequency and descriptive analyses were conducted for world regions/geographic locations to examine the rates of endorsement for all variables and basic demographic characteristics of each location's sample (see supplemental tables S1 through S4 for analyses by region at (https://osf.io/5s9na/). Pearson correlations were run on all study variables to examine overall trends/associations within the data (see supplemental tables S5 through S8 for analyses by region at (https://osf.io/

5s9na/). All scales were assessed for invariance across geographic locations and languages through confirmatory factor analysis using AMOS 27.0. Missing data were imputed with regression imputation prior to regression analyses in AMOS 27.0. Unfortunately, the perceived stress scale was found to have poor model fit and was not invariant across regional groups, and thus was removed from analyses (see supplemental tables S9 through S34 for all invariance testing and confirmatory factor analyses at https://osf.io/5s9na/).

Group differences between geographic locations and high/low cultural orientations were examined across variables (i.e., help-seeking, support provision to others, perceived support, received social support, and perceived stress) using multivariate analysis of covariance (MANCOVA; i.e., geographic locations x COS subscales x high/medium/low SES). Age and gender were used as covariates in this analysis. Lastly, path analyses were utilized to examine the impact of the four cultural orientation scales (i.e., vertical/horizontal individualism/collectivism) on each support scale (i.e., help-seeking, support provision to others, perceived support, received social support) when controlling for perceived stress, age, and gender.

Assumptions and alterations

Prior to data merge, all individual data files submitted by contributors were evaluated for error, coding, and labeled consistently. Overall, 50 data sets were submitted to the project and merged by the principal investigator using SPSS. A second researcher also merged the data sets and these final data sets were compared to assess for any errors that may have occurred while merging the data. Each item was assessed for error prior to further analyses (e.g., all items were checked for possible min/max values, proper labeling, deidentification of items when necessary) and no errors were found. Several variables were created for analysis. Region was coded using individuals' identified region of birth as it was the variable with the least amount of missing data. Further analyses were conducted on individuals' current location and region of birth, and we found that these analyses determined that these regions were not significantly different. Participants were found to indicate a place of birth across all seven regions of the world (i.e., America, Africa, Asia, Australia and New Zealand, the Caribbean, Europe, and Micronesia). Three regions (i.e., Australia and New Zealand, the Caribbean, and Micronesia) were excluded from regional analyses due to their small sample size ($n = 5$). In addition to the creation of the regional variables, the COS (i.e., scores of less than or equal to 18 indicated lower on the cultural value and scores of greater than 18 indicated higher on the cultural value) and MASSSS (i.e., scores of less than or equal to 5 indicated low subjective social status and scores of greater than 5 indicated high subjective social status) subscales were split into binary variables for high and low scores using a median split. Due to the large sample size, the median and mean were identical, thus a median/mean split was utilized.

Results

Participants

Prior to data cleaning, our sample consisted of N = 9,807 attempts at the survey. In total, 3,441 responses did not meet inclusion criteria (i.e., 1,283 did not complete any survey items, 1,419 more failed the honeypot attention check, 552 more failed the attention checks embedded in measures, 95 more were under 18 years old, and 92 more declined to provide consent) and thus our final sample consisted of 6,366 participants. Participants identified as mostly assigned female at birth (67.4%; n = 4292) with an average age of 30.76 (SD = 9.40). Similarly, 65.3% (n = 3479) identified their gender as woman (i.e., participants were allowed to select a gender identity that may or may not have coincided with their assigned sex at birth). Participants accessed the survey from over 59 different countries. Specifically, 36.0% (n = 2294) of participants indicated they were currently located in America, 33.6% (n = 2142) indicated they were in Asia, 12.9% (n = 821) indicated there were in Europe, 1.6% (n = 103) indicated they were in Africa, and 15.7% (n = 999) did not disclose their location. See Table 1S in the Supplemental Materials and Table 1 for the full sample demographics.

Correlations and descriptives

All descriptive statistics were performed on the total sample, as well as across regions. Please see Table 2S in the Supplemental Materials for descriptives of scales in the overall sample. Please see Table 3S in the Supplemental Materials for correlations between variables in the overall sample. Correlations ranged between 0.01 and 0.55 among all variables of interested suggesting small to moderate associations between variables.

Group differences

A MANCOVA was performed to assess for interactions between high and low COS subscales and high and low subjective social status on social support perception, reception, provision, and help-seeking behaviors (see Table 4S, Tables 2 and 3 for results of the MANCOVA). Consistent with our pre-registration, we added age, sex assigned at

Table 1 Demographic Characteristics of the Overall Sample

Variable	N	%
Sex at Birth		
Male	1819	28.6
Female	4292	67.4
Intersex	25	0.4
Years of Formal Education		
10 years or less	59	0.9
11 years	84	1.3
12 years	673	10.6
13 years	800	12.6
14 years	1022	16.1
15 years	926	14.6
16 years	849	13.3
17 years	575	9.0
18 years or more	873	13.7
No Response	505	7.9
Years of Formal Education of Biological Mother		
10 years or less	1167	18.3
11 years	288	4.6
12 years	1244	19.5
13 years	406	6.4
14 years	534	8.4
15 years	461	7.2
16 years	799	12.6
17 years	433	6.8
18 years or more	966	15.2
No Response	63	1.0
Years of Formal Education of Biological Father		
10 years or less	1072	16.9
11 years	311	4.9
12 years	1211	19.0
13 years	410	6.4
14 years	535	8.4
15 years	477	7.5
16 years	853	13.4
17 years	435	6.8
18 years or more	980	15.4
No Response	82	1.3

The overall sample indicated an average age of 30.76 years old (SD = 9.40)

birth, and region which served as significant covariates in the analyses.

Subjective social status

Subjective social status demonstrated a significant multivariate effect. Individuals with higher subjective social status indicated more perceived social support, more received social support, more provision of social support to others, and indicated more help-seeking than individuals with lower subjective social status.

Cultural orientation

Horizontal individualism Horizontal individualism demonstrated a significant multivariate effect across social support behaviors. Specifically, individuals with higher horizontal individualism indicated less perceived support and less help-seeking than individuals with lower horizontal individualism. All other effects were not significant.

Vertical individualism Vertical individualism demonstrated a significant multivariate effect. Individuals with higher vertical individualism indicated less perceived social support, less received social support, less provision of social support to others, and indicated less help-seeking than individuals with lower vertical individualism.

Horizontal collectivism Horizontal collectivism demonstrated a significant multivariate effect on all social support behaviors. Individuals with higher horizontal collectivism indicated more perceived social support, more received social support, more provision of social support to others, and indicated more help-seeking than individuals with lower horizontal collectivism.

Vertical collectivism Vertical collectivism demonstrated significant multivariate main effects on social support behaviors. Individuals with higher vertical collectivism indicated more perceived social support, more received social support, more provision of social support to others, and indicated more help-seeking than individuals with lower vertical collectivism. Individuals with higher vertical collectivism indicated more received social support than individuals with lower vertical collectivism.

Interactions

Furthermore, several interactions demonstrated significant multivariate effects. Vertical individualism * horizontal collectivism demonstrated a significant effect. Specifically, individuals with high horizontal collectivism and low vertical individualism indicated the more perceived support compared to individuals with high horizontal collectivism and high vertical individualism. Similarly, individuals with high horizontal collectivism and low vertical individualism indicated the more provision of support to others compared to individuals with high horizontal collectivism and high vertical individualism.

Subjective social status * vertical individualism * horizontal collectivism demonstrated significant multivariate effects with higher subjective social status, high horizontal

Table 2 Univariate Effects of Cultural Values and Subjective Social Status on Social Support Behaviors

SubS	*F*	*p*	partial η^2	High SubS (*M* (*SE*))	Low SubS (*M* (*SE*))
Perceived Support (MSPSS)	77.29	*	0.02	88.57 (.30)	84.23 (.39)
Help-seeking (COPE)	47.68	*	0.01	22.83 (.11)	21.63 (.14)
Support Provision (BSSSPro)	16.92	*	0.00	46.76 (.11)	46.00 (.15)
Received Support (BSSSRec)	12.37	*	0.00	45.19 (.16)	44.30 (.20)
Horizontal Individualism (COSHI)	*F*	*p*	partial η^2	High COSHI (*M* (*SE*))	Low COSHI (*M* (*SE*))
Perceived Support (MSPSS)	39.28	*	0.01	84.86 (.34)	87.95 (.36)
Help-seeking (COPE)	90.40	*	0.02	21.42 (.12)	23.05 (.13)
Support Provision (BSSSPro)	0.024	0.89	0.00	46.37 (.13)	46.39 (.13)
Received Support (BSSSRec)	3.03	0.08	0.0	44.53 (.17)	44.97 (.19)
Vertical Individualism (COSVI)	*F*	*p*	partial η^2	High COSVI (*M* (*SE*))	Low COSVI (*M* (*SE*))
Perceived Support (MSPSS)	7.46	0.01	0.00	85.72 (.37)	87.08 (.33)
Help-seeking (COPE)	4.93	0.03	0.00	22.42 (.13)	22.04 (.12)
Support Provision (BSSSPro)	29.12	*	0.01	45.88 (.14)	46.88 (.12)
Received Support (BSSSRec)	8.54	0.00	0.00	44.38 (.19)	45.12 (.17)
Horizontal Collectivism (COSHC)	*F*	*p*	partial η^2	High COSHC (*M* (*SE*))	Low COSHC (*M* (*SE*))
Perceived Support (MSPSS)	76.12	*	0.02	88.56 (.35)	84.25 (.35)
Help-seeking (COPE)	103.71	*	0.02	23.11 (.12)	21.36 (.12)
Support Provision (BSSSPro)	96.04	*	0.02	47.28 (.13)	45.48 (.13)
Received Support (BSSSRec)	43.40	*	0.01	45.59 (.18)	43.91 (.18)
Vertical Collectivism (COSVC)	*F*	*p*	partial η^2	High COSVC (*M* (*SE*))	Low COSVC (*M* (*SE*))
Perceived Support (MSPSS)	117.31	*	0.022	89.09 (.33)	83.72 (.37)
Help-seeking (COPE)	5.24	0.02	0.001	22.43 (.12)	22.04 (.13)
Support Provision (BSSSPro)	86.13	*	0.02	47.24 (.12)	45.52 (.14)
Received Support (BSSSRec)	37.89	*	0.01	45.53 (.17)	43.96 (.19)

*$= p < 0.001$

collectivism, and low vertical individualism indicated more perceived social support in comparison to individuals with other combinations of these three variables.

Lastly, horizontal individualism * vertical individualism * horizontal collectivism indicated significant multivariate effects with individuals with higher horizontal collectivism, higher horizontal individualism, and lower vertical individualism indicated the more provision of support to others compared to other combinations of these three variables. All other interactions in the MANCOVA were not significant.

Regional differences

A MANCOVA was performed to assess whether there were significant differences among cultural orientation, subjective social status, and social support behaviors across regions. Consistent with our pre-registration, covariates included age (Wilks' $\Lambda = 0.94$, $F(10, 5178) = 34.45$, $p < 0.001$, partial $\eta^2 = 0.06$) and sex assigned at birth (Wilks' $\Lambda = 0.91$, $F(10, 5178) = 51.51$, $p < 0.001$, partial $\eta^2 = 0.09$). Region (Wilks' $\Lambda = 0.84$, $F(30, 15{,}199) = 30.06$, $p < 0.001$, partial $\eta^2 = 0.06$) demonstrated significant multivariate effect.

Cultural orientation and subjective social status Individuals from Africa ($M = 29.37$, $SE = 0.47$) and Asia ($M = 28.94$, $SE = 0.10$) indicated significantly higher horizontal individualism in comparison to both America ($M = 27.85$, $SE = 0.11$) and Europe ($M = 27.38$, $SE = 0.18$; $F(3) = 28.69$, $p < 0.001$, partial $\eta^2 = 0.02$). Similarly, individuals from Africa ($M = 23.52$, $SE = 0.59$) and Asia ($M = 21.75$, $SE = 0.14$) indicated significantly higher vertical individualism in comparison to both America ($M = 18.98$, $SE = 0.14$) and Europe ($M = 19.23$, $SE = 0.22$; $F(3) = 88.20$, $p < 0.001$, partial $\eta^2 = 0.05$). Likewise, individuals from Africa ($M = 27.75$, $SE = 0.55$) and Asia ($M = 27.01$, $SE = 0.13$) indicated significantly higher vertical collectivism in comparison to both America ($M = 24.50$, $SE = 0.13$) and Europe ($M = 25.70$, $SE = 0.21$; $F(3) = 71.94$, $p < 0.001$, partial $\eta^2 = 0.04$). Lastly, individuals in America ($M = 5.76$, $SE = 0.04$) and Europe ($M = 5.62$, $SE = 0.07$) indicated significantly lower subjective social status in comparison to those in Asia ($M = 6.31$, $SE = 0.04$; $F(3) = 44.72$, $p < 0.001$, partial $\eta^2 = 0.01$). All other effects were not significant.

Social support behaviors Individuals in Asia indicated significantly less ($M = 85.32$, $SE = 0.33$) perceived support than

Table 3 Univariate Effects of Significant Interactions Between Cultural Values and Subjective Social Status on Social Support Behaviors

COSVI * COSHC	*F*	*p*	*partial* η^2	High VI (*M* (*SE*))				Low VI(*M* (*SE*))			
				High HC		Low HC		High HC		Low HC	
Perceived	6.76	0.01	0.01	87.24	0.54	84.21	0.50	89.88	0.45	84.28	0.49
Help-seeking	2.76	0.10	0.01	23.16	0.19	21.70	0.17	23.06	0.16	21.02	0.17
Provision	2.53	0.11	0.01	46.64	0.20	45.12	0.19	47.93	0.17	45.83	0.18
Received	5.03	0.03	0.01	44.93	0.28	43.82	0.26	46.24	0.23	44.00	0.25
SubS*COSVI*COSHC	*F*	*p*	*partial* η^2	High SubS (*M* (*SE*))				Low SubS (*M* (*SE*))			
				High VI		Low VI		High VI		Low VI	
				High HC	Low HC	High HC	Low HC	High HC	Low HC	High HC	Low HC
Perceived	10.48	*	0.01	90.05(.62)	85.19(.58)	91.64(.57)	87.41(.64)	84.43(.88)	83.23(.80)	88.11(.69)	81.15(.75)
Help-seeking	1.39	0.24	0.00	23.61(.22)	22.26(.20)	23.48(.20)	21.96(.22)	22.70(.30)	21.13(.28)	22.64(.24)	20.09(.26)
Provision	0.01	0.95	0.00	46.96(.23)	45.71(.22)	48.09(.21)	46.27(.24)	46.31(.33)	44.54(.30)	47.76(.26)	45.38(.28)
Received	1.84	0.18	0.00	45.49(.32)	43.95(.30)	46.67(.29)	44.68(.33)	44.37(.45)	43.70(.41)	45.82(.36)	43.32(.39)
COSHI* COSVI* COSHC	*F*	*p*	*partial* η^2	High COSHI (*M* (*SE*))				Low COSHI (*M* (*SE*))			
				High VI		Low VI		High VI		Low VI	
				High HC	Low HC	High HC	Low HC	High HC	Low HC	High HC	Low HC
Perceived	0.04	0.84	0.00	85.62(.64)	82.87(.63)	88.22(.68)	82.71(.74)	88.86(.86)	85.55(.76)	91.53(.58)	85.86(.65)
Help-seeking	0.00	0.98	0.00	22.11(.22)	20.99(.22)	22.13(.24)	20.43(.26)	24.20(.30)	22.39(.26)	23.99(.20)	21.62(.23)
Provision	4.60	0.03	0.00	46.13(.24)	45.19(.24)	48.23(.25)	45.91(.28)	47.14(.32)	45.06(.28)	47.63(.22)	45.75(.24)
Received	0.80	0.37	0.00	44.82(.33)	43.61(.33)	45.79(.35)	43.89(.38)	45.04(.44)	44.03(.39)	46.70(.30)	44.10(.33)

VI Vertical Individualism, *HI* Horizontal Individualism, *VC* Vertical Collectivism, *HC* Horizontal Collectivism

* = $p < 0.001$

individuals in America ($M = 89.26$, $SE = 1.43$; $F(3) = 19.94$, $p < 0.001$, partial $\eta^2 = 0.01$), and Europe ($M = 88.71$, $SE = 0.54$; $F(3) = 26.22$, $p < 0.001$, partial $\eta^2 = 0.02$). Individuals from Asia indicated significantly less received social support ($M = 44.52$, $SE = 0.17$) in comparison to individuals from America ($M = 45.60$, $SE = 0.17$) and from Africa ($M = 46.80$, $SE = 0.72$; $F(3) = 9.14$, $p < 0.001$, partial $\eta^2 = 0.03$). Likewise, individuals from Africa reported more provision of support to others ($M = 48.82$, $SE = 0.53$) compared to those from America ($M = 46.83$, $SE = 0.12$), Europe ($M = 46.36$, $SE = 0.20$), or Asia ($M = 46.56$, $SE = 0.12$; $F(3) = 7.22$, $p < 0.001$, partial $\eta^2 = 0.01$). Lastly, individuals born in Asia ($M = 23.18$, $SE = 0.19$) indicated significantly more help-seeking to those from America ($M = 22.17$, $SE = 0.11$), Europe ($M = 21.87$, $SE = 0.19$), or Africa ($M = 21.55$, $SE = 0.50$; $F(3) = 19.94$, $p < 0.001$, partial $\eta^2 = 0.01$).

Path analysis

Regression analyses were performed for the overall sample and between regions to assess for the association between cultural values and subjective social status on social support behaviors. In the overall sample, the model demonstrated good model fit (CFI = 0.95). Higher subjective status was associated with higher scores on all social support scales (i.e., social support provision, reception, perception, and help-seeking). Horizontal individualism was negatively associated with received support, help-seeking, and perceived support. Vertical individualism was negatively associated with received support, provision of support to others, and perceived support, but positively associated with help-seeking. Horizontal collectivism was positively associated with all support behaviors. Lastly, vertical collectivism was positively associated with receiving support, providing support to others, and perceiving support. The regional model demonstrated good model fit (CFI = 0.96) for the regression analyses, however, the model did not achieve measurement invariance across regions. Thus, no regional comparisons were made. For results of this model, see Table 4.

Table 4 Regression Model for the Overall Sample

Variable	β	S.E	*p*	B
Horizontal Individualism				
Received Support	-0.06	0.02	***	-0.04
Perceived Support	0.01	0.02	0.55	0.01
Help-Seeking	-0.18	0.01	***	-0.17
Perceived Support	-0.33	0.04	***	-0.10
Vertical Individualism				
Received Support	-0.07	0.01	***	-0.07
Perceived Support	-0.04	0.02	0.01	-0.04
Help-Seeking	0.04	0.01	***	0.05
Perceived Support	-0.15	0.03	***	-0.06
Horizontal Collectivism				
Received Support	0.20	0.02	***	0.17
Perceived Support	0.20	0.02	***	0.14
Help-Seeking	0.22	0.01	***	0.21
Perceived Support	0.46	0.04	***	0.14
Vertical Collectivism				
Received Support	0.13	0.01	***	0.14
Perceived Support	0.11	0.02	***	0.09
Help-Seeking	0.00	0.01	0.91	0.00
Perceived Support	0.51	0.04	***	0.19
Subjective Social Status				
Received Support	0.21	0.04	***	0.06
Perceived Support	0.31	0.05	***	0.08
Help-Seeking	0.35	0.04	***	0.12
Perceived Support	1.01	0.11	***	0.11
Age				
Received Support	-0.00	0.01	0.68	-0.01
Perceived Support	-0.03	0.01	***	-0.04
Help-Seeking	-0.02	0.01	***	-0.04
Perceived Support	-0.23	0.02	***	-0.13
Sex at Birth				
Received Support	1.87	0.16	***	0.15
Perceived Support	1.59	0.21	***	0.10
Help-Seeking	1.66	0.14	***	0.15
Perceived Support	1.37	0.44	***	0.04

*** $p < 0.001$

Discussion

Results of the current study demonstrate that culture and region have significant impacts on social support behaviors, but do not match previous literature or expectations. *In relation to the General Impact of World Events Hypotheses, hypotheses were partially supported.* Our results show that individuals with higher subjective social status were more likely to indicate more perceived and received social support and help-seeking behaviors; they also indicated more provision of social support to others than individuals with lower subjective social status. However, region and culture did not moderate the relation between subjective social status and outcomes of social support and help-seeking. This indicates that regardless of cultural or regional values, higher subjective social status may be more meaningful to perceptions of support, ability to provide support, and availability of resources for help-seeking. In turn, perception of status globally is likely influenced by received resources or access to resources. Moreover, previous research shows individuals who can provide resources or support to others are more likely to perceive a higher status for themselves within their context

(e.g., Andreß et al., 1995; Krause & Borawski-Clark, 1995; Melchiorre et al., 2013; Weyers et al., 2008).

In relation to the Cultural Context hypotheses, hypotheses were not consistent with our results. Specifically, horizontal, and vertical collectivism related to higher help-seeking behavior, perceived support, received support, and provision of support, whereas horizontal individualism was associated with less perceived support and less help-seeking and vertical individualism was associated with less perceived and received support, but more help-seeking behavior. Furthermore, the largest differences in provision of social support and perception of social support occurred when horizontal collectivism was higher and vertical individualism was lower. Horizontal collectivism indicates individuals perceive they are part of a collective group and vertical individualism indicates a person expects inequality and feels they are on their own (Triandis & Gelfand, 1998). Thus, social support and help-seeking behaviors seem to be most impacted by expectations of inequality and perceptions of membership to the larger whole. Given other interactions it also appears that the presence of higher horizontal collectivism and lower vertical individualism, even in the context of higher horizontal individualism, related to higher provision of support to others. This may indicate that support is meaningfully related to perceptions that one is responsible for their group and that it is not a motivator to be above others and contribute further to inequality and that even if one is also emphasizing independence and uniqueness, that this may make them "uniquely" suited to provision of support (i.e., savior complex; Wilcox, 2021).

Pre-existing literature in this domain may have been impacted by their assessment of cultural norms (i.e., collectivism and individualism without further distinction of horizontal and vertical elements). Although previous research suggested individuals in collectivist communities utilized social support to social norms and maintain harmony, that normalcy may play a uniquely important role during stressful circumstances (Goode et al., 2022). Specifically, post-pandemic it may be that individuals in collectivist societies found themselves more able to rely on those around them and seek help when needed, knowing they had access to those resources, whereas individualistic societies may have struggled to perceive the ability to seek support from others. These findings are further explained when contextualized by the regional results.

Specifically, African, and Asian regions on average reported higher vertical and horizontal individualism than America or Europe. This is atypical to previous research which has consistently discussed higher collectivism regarding African and Asian regions, particularly east Asian regions (e.g., Kim et al., 2006). It may be that the way individualism and collectivism were measured across individuals in the current study indicates an important distinction from what the literature has indicated (i.e., the current study examined culture beyond the binary collectivism vs. individualism; Fiske, 2002). Furthermore, Asian, and African regions indicated higher subjective social status than America or Europe, with America reporting the lowest on average. Individuals in the Asian region reported less perceived and received support and more help-seeking than America or Europe. Moreover, individuals from the Africa region reported more provision of support than any other region in the current study. This suggests subjective social status may play a more significant role than previously interpreted above and beyond collectivism or individualism, given that vertical and horizontal individualism were related to lower perceived support.

Although North America is considered one of the strongest countries regarding economic success (Nye, 2019), the subjective perception of individuals living within the country may significantly impact outcomes related to social support (e.g., Melchiorre et al., 2013). Specifically, individuals with a scarcity mindset (e.g., perception that resources are low and difficult to access), may be less likely to perceive access to social support as well as provide social support (Mitsui, 2022). Therefore, a cycle may occur where social support is less when fewer resources are perceived, which prevents further social support behaviors to cope (Weyers et al., 2008). Additional research is needed to explore these topics and include other measurements of culture (e.g., filial piety, tightness-looseness) to determine whether subjective social status remains a significant predictor of social support behaviors with other cultural variables in the model.

Limitations and strengths, and practical implications

The current study was not without several key limitations. Data were collected from over 50 different contributors, each who received separate IRB review and approval for the study. As a result, many data sets were unable to collect specific variables as limited by their IRB. For example, several sites were unable to ask specific questions about gender identity, sexual orientation, and current location due to ethical considerations associated with the variables collected in this study. As data across all 50 collections were merged, great care was taken to ensure the accurate translation of these materials across several languages in this worldwide data collection. Unfortunately, words and concepts may not have been consistently translated across languages. For instance, support, when directly translated, could mean to "bear the weight of" or "to hold up" instead of the contextual definition we sought to examine in this study. However, the ability to disseminate this study across different populations, different countries, and translate the study into more than six different languages also allowed

for the comparison of these different language groups across multiple measures and constructs. As data was collected worldwide, in the current study we also sought to determine regional differences. There exist many ways to divide the world for regional analyses. In the current study we used a coding method consistent with statistical analyses conducted by the United Nations. However, different coding methods or the use of smaller regions for analysis might contribute to a more detailed outlook on all our study variables. Future studies are encouraged to explore these different coding and analysis methods to help us further understand the incredible complexity of these behaviors, beliefs/values, and economic positions.

Another limitation of the current study was in the length of data collection. In the current study data collection lasted for 1 year to allow multiple sites to attain IRB approval and complete data collection. Consequently, data collection may have collected information across varying socio-political events and throughout different stages in the COVID-19 pandemic. For example, during the year of data collection, COVID-19 deaths rose and fell (Bigg, 2023; WHO, 2023), February 2022 marked the beginning of the Russo-Ukrainian War, the Taliban returned to power in Afghanistan. As a result, any analyses conducted on the data collected across this period should be assessed with caution. In particular, the difficulties encountered with the PSS scale and its lack of consistency and invariance may be a remnant of both the difficult with translating measures across language (e.g., stress may mean different things when taking these recent events into account) and when considering the contextual factors surrounding these measurements. CFA analyses revealed PSS-10 to have poor model fit and was not invariant across regional groups.

We used a previously validated measure of perceived stress but this measure was found to have poor consistency in the current study. Perceived stress is a highly contextualized construct that may vary across cultures (Gamonal-Limcaoco et al., 2022; Lee et al., 2023). One study found depending on the type of stressful situation (interpersonal vs. non-interpersonal) European Canadians perceived stressful non-interpersonal situations as more frequent compared with Japanese undergraduates, whereas Japanese undergraduates perceived stressful interpersonal situations as more frequent than European Canadians. Thus, it is possible that the PSS-10 does not tap into the full construct of perceived stress in regions that conceptualize interpersonal conflict differently. The lack of invariance across regions for the overall path analysis suggests that further validation of concepts of social support is needed cross-culturally to ensure the generalizability and robustness of future research on these concepts. Yet, these data collections may also highlight overarching themes in regard to social support that circumvent these contextual factors and result in universal relationships between these variables. As these data were cross-sectional in nature, future studies should assess these characteristics and behaviors longitudinally to examine the universality of these associations. In addition, all data was collected via an online research platform and participants were recruited online. Thus, our data were threatened by bots and fraudulent participants which resulted in a large portion of the data being discarded as "participants" did not pass our security measures. Nevertheless, our study successfully detected and prevented bots using a combination of different methods resulting in more reliable data (Lawrence et al., 2023; Xu et al., 2022). Lastly, as data collection was conducted over multiple sites worldwide, no overarching method was used to ensure a diverse or representative sample which may limit the generalizability of the findings to underrepresented groups.

The current study examined how individuals from various cultural contexts around the world experience the impact of culture, SSS, and SES on social support and help-seeking behaviors following the global COVID-19 pandemic and upsurges in social justice movements. These findings highlight and advance the understanding of how cross-cultural complexities and contextual distinctions influence an individual's perception, processing, and practice of social support embedded in the changing social landscape. Drawing from these results, it is imperative that mental health professionals and preventionists modify and implement interdisciplinary, culturally relevant interventions that address the needs and concerns of individuals and their respective communities, and in result, improve their social support behaviors and mental health functioning, and promote positive psychological outcomes. More specifically, community-based social support groups and programs (in-person and virtual) can offer psychoeducation and practical skills (i.e., adaptive coping strategies, therapeutic interventions, etc.) that consider one's individualistic and collectivistic communities, beliefs and attitudes, cultural norms, and values. Furthermore, As COVID-19 transitions from i pandemic to endemic, new and innovative support strategies and resources are needed to assist individuals in adapting to a "new normal." For example, inclusion of culturally responsive interventions is necessary to mitigate the psychological impact of loneliness and isolation, enhance social connectedness and interactions, expand social support networks, and promote one's physical and health outcomes (Steptoe, 2022).

Given that this study utilized open science research tools and practices to analyze globally collected data, it is important that researchers and data scientists continue to engage and further develop these research practices. The aim here is to advance cultural competency within psychological science by enhancing the generalizability, vigor, and credibility in understanding individuals, especially ethno-racial minorities living in various cultural contexts

(Lui et al., 2022). This study's findings demonstrate that culture and region have significant impacts on social support behaviors, thus open science research practices which are intended to increase transparency in the knowledge-production process must address bias and broaden equitable access to data and findings with the expectation to advance the validity in understanding populations in their distinctive lived experiences and contexts (Lui et al., 2022; Steptoe, 2022).

Conclusion

Despite limitations, the present study contributes to a larger understanding of the impact of culture, SSS, and SES, on social support and help-seeking behaviors during the global pandemic, and subsequent social justice movements. Specifically, this study demonstrates how social supporting provision and help-seeking behaviors are complex, given the cross-cultural and contextual nuances surrounding our unique global crises. More nuances regarding these differences in research may further highlight our understanding of how to appropriately support different communities, especially in dire times of need. As a result, our study provides a novel contribution to existing literature on social support and delineates important considerations as the global population continues to diversify.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s12144-024-05764-5.

Acknowledgements The team would like to thank Psi Chi's Network for International Collaborative Exchange for facilitating this project.

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Funding Cory J. Cascalheira is supported as a RISE Fellow by the National Institutes of Health (R25GM061222).

Data availability All data and materials for the current paper can be found on the Open Science Framework: https://osf.io/5s9na/.

Declarations

Conflict of interest The authors report no conflicts of interests.

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