UNIVERSITY OF CALIFORNIA
Santa Barbara

Boundary Management During COVID-19: A Mixed-Methods Approach to Investigating Underrepresented Students' Navigation of Work-Life Conflict

A Thesis submitted in partial satisfaction of the

requirements for the degree Master of Arts

in Communication

by

Nitzan Navick

Committee in charge:

Professor Jennifer Gibbs, Chair

Professor Ronald Rice

Professor Young Ji Kim

June 2021

The thesis of Nitzan Navick is approved.

_____

Ronald Rice

_____

Young Ji Kim

_____

Jennifer Gibbs, Committee Chair

June 2021

ABSTRACT

Boundary Management During COVID-19: A Mixed-Methods Approach to Investigating Underrepresented Students' Navigation of Work-Life Conflict

by

Nitzan Navick

During the COVID-19 pandemic, college students were abruptly forced into remote work arrangements that altered their work and life demands and impacted their work-life boundaries. Past research on ICT-reliant work and well-being notes that in contrast to the many benefits of ICT-enabled work arrangements, these arrangements can increase feelings of exhaustion when there is a discrepancy between demands and resources. Unlike traditional knowledge workers, college students do not receive the necessary training and infrastructural resources to balance their work-life boundaries. Additionally, underrepresented student populations are at an even greater disadvantage. As such, this study takes an explanatory sequential mixed-methods approach to examining the effects of boundary permeability, boundary flexibility, and work-life conflict on work-engagement and exhaustion across a diverse student sample. Convergent findings from both the quantitative and qualitative strand of this research revealed that 1) college students are facing increased boundary permeability, work-life conflict, and exhaustion across all academic identities and 2) college students experience boundary characteristics and work-life conflict differently depending on their academic identities as either underrepresented or traditional students. The present research contributes theoretically to the boundaries and borders literature and research in Diversity,

Equity, Inclusion, and Justice (DEIJ), practically in that it highlights the support needs of various types of students, and methodologically in that it provides further support for the importance of mixed-methods research.

Keywords: boundary management, boundary flexibility and permeability, forced remote work, exhaustion, underrepresented students, work-life conflict

Boundary Management During COVID-19: A Mixed-Methods Approach to Investigating Underrepresented Students' Navigation of Work-Life Conflict

Shortly following the announcement of the COVID-19 pandemic by the World Health Organization (WHO), college students across the globe underwent an abrupt transition to technology-reliant work and faced sudden disruptions to their personal lives. Anecdotally, the use of information and communication technologies (ICTs) to support forced remote work has resulted in students reporting both increased flexibility and increased permeability of their work-life boundaries. A well-known consequence of unbalanced work-life boundaries is work-life conflict, characterized by strain brought on by the discrepancy between work-life demands and the resources necessary to balance them (Ashforth et al., 2000; Clark, 2000). Additionally, past research on ICT-reliant work and well-being notes that in contrast to the many benefits of ICT-enabled work arrangements, these arrangements can increase feelings of exhaustion (Schaufeli et al., 2002). Whether or not they utilize it, remote workers in organizations are more frequently provided the infrastructure, resources, and training necessary to strike a balance between work and life domains. However, college students were thrust into forced remote work arrangements with none of these supports.

This phenomenon has been observed in pedagogy-oriented Facebook groups in which educators from all over the United States report instances in which students are logging in to synchronous zoom classes while they are simultaneously working at their paid jobs, students sending faculty distressed emails describing deteriorating mental health and feelings of exhaustion, students falling behind on assignments, and more (Pandemic Pedagogy Facebook Group, 2020). In particular, underrepresented students are struggling to navigate these drastic

modifications to their lives by virtue of familial, navigational, and financial constraints. Existing inequities are drastically exacerbated for students from communities that have been disproportionately impacted by COVID-19 (van Dorn et al., 2020): non-traditional, first-generation, and marginalized student groups that experienced navigational challenges even prior to the pandemic (Yosso, 2005); and students from low-socioeconomic status (low-SES) who are at risk of struggling to sustain access to reliable technology (Gonzales, 2020). However, despite the continuous discourse surrounding the challenges college students are facing as a result of blurred work-life boundaries, this topic has not yet been studied empirically.

The purpose of this study is therefore twofold. The first goal is to examine the effects of work-life boundary characteristics, work-life conflict, and boundary communication on college students' experiences of work-engagement and feelings of exhaustion, in light of forced remote work due to COVID-19. The second goal of the study is to capture differences between students on the basis of their academic identities as either underrepresented students or traditional students, and to further explore the nuances of these predicted differences qualitatively.

This research contributes to boundary management theory (Ashforth et al., 2000; Clark, 2000) by 1) examining the impact of forced remote work on college students' work-life boundaries, 2) testing exhaustion as a potential outcome of poor boundary management, and 3) framing boundary communication as a boundary management strategy. Additionally, this study contributes to theory on diversity, equity, and inclusion in higher education by taking a mixed methods approach in order to gain a deeper understanding of the different

experiences of underrepresented versus traditional students in a topic area in which students have received little attention.

Boundaries, Borders, and Work-Life Conflict

Ashforth et al. (2000) discuss how individuals engage in role transition as a part of their organizational life. They draw from literature on boundaries to examine how individuals create and maintain social boundaries as a means of simplifying and creating order in their environments. The authors note that the act of creating and maintaining boundaries, however, complicates the act of crossing from one domain to another domain as it can be compared to "taking a cognitive leap between categories" (Ashforth et al., 2000 p. 475). Ashforth et al. (2000) introduce the concept of movements and rites of transition, a psychological stage of role transition across boundaries that is typically routinized (e.g., leaving home on a Monday morning to go to work). However, if the exit cues from one role to the next are indeterminate, individuals must enter a complex decision-making process that involves considering one's mood, need for affective arousal, and the required attention for each potential role.

Similarly, Clark's (2000) work-family border theory focuses on the influential relationship between work and family, and how individuals manage and negotiate the work and family domains and their borders in order to achieve balance. She defines borders as lines of demarcations between domains which define the point at which domain-relevant behaviors begin or end. Unlike Ashforth et al.'s (2000) theory, which predominantly addresses psychological boundaries, Clark (2000) discusses borders including physical borders, such as a workspace, and temporal borders, such as set work hours, in addition to psychological borders, such as rules that dictate thinking patterns and behaviors.

Both Ashforth et al.'s (2000) boundary theory and Clark's (2000) work-family border theory discuss boundary flexibility and permeability as characteristics of boundaries which influence experiences of work-life conflict. Work–life conflict is characterized by tensions caused by discrepancies between expectations and challenges from different domains. Boundary flexibility is characterized by the degree to which space and time are malleable and predicts less work-life conflict as it allows individuals to assume a role transition as is necessary. Permeability is the degree to which one role or life domain interferes or intermingles with another role or life domain and predicts more interruptions which lead to more work-life conflict (Hall & Richter, 1988).

In the context of ICT-enabled, remote work, an example of both flexible and permeable boundaries might be observed in an employee who accepts personal phone calls at work, or work phone calls at home. This is an example of ICT-enabled flexibility in that a worker can assume either a work role or life role from any place and at any time, through the use of a mobile phone. However, it is also an example of ICT-enabled boundary permeability in that work demands can interfere with home demands instantaneously, and vice versa. While the flexibility of remote work is often desirable as workers are better able to adapt when work or life demands increase by adjusting their schedules or by easily making a cognitive switch to a different domain, excessive permeations across the boundaries of work and life often result in work-life conflict (Ashforth et al., 2000; Clark, 2000; Hall & Richter, 1988).

Even prior to the pandemic, work and life boundaries were already becoming increasingly permeable with the development of new mobile technologies, globalization, and

the widespread adoption of telework (Ellison, 2004). Kossek et al. (2006) argues that rapid developments in technology that enable higher flexibility in work hours have negative implications for remote workers' turnover intentions, work-life interference, and well-being as they allow for excessive interruptions. For example, a frequently cited topic in the telework literature is the shift from work technology mobility to behaviors and paradoxes regarding connectivity (Dery & MacCormick, 2012; Leonardi et al., 2010). The use of ICTs in day-to-day life activities has long promoted a norm of constant connectivity, which is characterized by the expectations of being constantly available through technological media (e.g., Boswell et al., 2016; Mazmanian et al., 2013). In fact, while citing the desire for flexibility and physical distance as reasons that they elect to telework, many teleworkers also report that ICTs make them feel "too connected" and that they have developed strategic dissimulation and disengagement tactics to prevent persistent interruptions (Leonardi et al., 2010; Gibbs et al., 2013).

For college students, higher boundary flexibility is nothing novel (Lim et al., 2017). In fact, remote education allows for students to be even more flexible in their day-to-day activities by virtue of asynchronous classes and activities which they would otherwise need to attend during a set time-of-day. This may actually reduce the likelihood of work-life conflict, as it allows students to adjust their schedules in order to accommodate work-life demands. On the other hand, like boundary flexibility, students' boundary permeability is also typically high (Lim et al., 2017). This means that college students are even more at risk of experiencing work-life conflict during the pandemic, a time where work-life boundaries have been significantly diminished for many individuals. Moreover, because college students often lack the resources to prevent work-life conflict (e.g., work experience necessary to

develop dissimulation tactics), they are also at risk of becoming overly exhausted and dis-engaged from their schoolwork. This has negative implications for students' academic success and overall well-being.

The COVID-19 shelter-in-place and social distancing orders have created conditions in which school and non-school boundaries are now, perhaps more flexible, but definitely more permeable for students who rely on ICTs to work, live, study, and socialize from their homes. Drawing from the work of Ashforth et al. (2000), Clark (2000), and other scholars working in the area of work-life boundaries, the following predictions are made:

H1a: Boundary flexibility will be negatively related to exhaustion.

H1b: The negative relationship between boundary flexibility and exhaustion will be mediated by work-life conflict.

H2a: Boundary permeability will be positively related to exhaustion.

H2b: The positive relationship between boundary permeability and exhaustion will be mediated by work-life conflict.

Boundary Communication as a Boundary Management Strategy

Paradoxical work arrangements in which remote workers seek flexibility and focus but experience various permeability-related interruptions across domains often lead to strategic responses from workers to mitigate inter-domain disruptions and work-life conflict. For example, teleworkers have been noted to turn off or disconnect devices at the end of a workday, with some even going as far as to physically closing the door on their workspace

once the day is done. Others may use dissimulation tactics such as setting visible availability statuses as “in a meeting” or “away” to establishing a boundary by indicating to others that they are not available to take phone calls or answer emails (Gibbs et al., 2013; Leonardi et al., 2010;). Boundary management theory focuses on these phenomena, which explain how working professionals manage the boundaries between work and non-work domains (Bulger et al., 2007; Kossek et al., 2006; 2012).

Boundary communication refers to a set of verbal communicative strategies that individuals enact to achieve their standard of balance across work-life borders by discussing work demands with family and family demands with work associates (Clark, 2002). In college students’ cases, this may translate to discussing school domain demands with family and conversely, discussing non-school domain demands with school associates. As individuals converse with others about their work-life demands, they may be able to better coordinate or set boundaries with others and thus can create a situation that works best for them by reducing the potential for conflict (Clark, 2002). This study adopts Clark’s (2002) assertion that work-life experiences can be socially constructed through communication about work-life boundaries, and further frames boundary communication as a boundary management strategy.

Now that students’ boundary characteristics have drastically changed because of the COVID-19 pandemic, the potential for work-life conflict across these boundaries has as well. Past research on boundary communication indicates that it is associated with border characteristics and is related to an association between high-level communication and work-

life balance, which is the conceptual opposite of work-life conflict (Clark, 2002). As such, I predict the following:

> H3: Boundary communication will moderate the relationship between boundary permeability and work-life conflict such that the positive relationship between boundary permeability and work-life conflict will become weaker the more students engage in boundary communication behaviors.

Undergraduate Students: An Important Population

Studying remote work that has been abruptly forced upon students as a result of campus closures has the potential to make several contributions to boundary management theory. First, much of the research done on remote work to date has assumed that remote work arrangements 1) are voluntary and 2) are supported by organizations that provide options, resources, and preparation to mitigate the negative effects of remote work. Due to public health regulations resulting from the pandemic, students working remotely during COVID-19 have no other option but to do so. This significantly alters the degree of preparedness, willingness, and available infrastructure for remote work. Consequently, forced remote work has implications for how students manage their boundaries during a time in which they are not receiving material or instructional support. As such, studying a student population working remotely during the pandemic challenges the theoretical assumptions of telework and extends boundary management theory by examining adaptive boundary management strategies during a global crisis.

From a practical perspective, a college student population is interesting, because, unlike working professionals, the distinction between "work" and "non-work" domains and boundaries is less clear, especially now in a time when a majority of students are managing these boundaries in a collapsed setting and remote work is forced. Even more so, student populations present diverse, varying experiences with remote work and degree of available material, energetic, and navigational resources to prevent work-life conflict, exhaustion, and burnout. For example, a study conducted at a small Western university found that while some students were not significantly affected by the impact of COVID-19, many students reported not having an adequate space to effectively study and work from their homes, some reported being displaced and housing-insecure, and many struggled with unreliable Wi-Fi, computers, webcams, and printer access (CSU Channel Islands Student Stakeholder Fall 2020 Feedback Survey, unpublished). Likewise, an additional study conducted by a second, larger Western University reported primary themes including needing to physically relocate, increased interruptions when studying, and densely filled households. The survey found that 13% of students were housing insecure, 65% reported that their prior residence was a more comfortable place to conduct schoolwork, and 53% reported that their prior residence had less conflict and tension (UCSB Spring 2020 Remote Learning Survey, 2020).

Further, when accounting for demographics, inequalities between traditional and underrepresented students become salient. In a nationwide study, only a quarter of associate degree students of color living in student housing before the crisis had been provided alternative housing options (25%), while 65% of white associate degree students had those options provided by their institutions (Global Strategies Group, 2020). Additionally, only 17% of parent-students living in student housing before the pandemic reported being

provided alternative housing options by their college or university. Even more alarming, among low-income students about two in five reported having skipped or reduced their meals (43%) as a result of the pandemic's financial impact. In May of 2020, barely half of all participants in the Global Strategies Group (GSG) survey nationwide (53%) thought they would be able to afford basic expenses like food, housing and tuition if the coronavirus crisis persisted for two more months. Almost half of low-SES students and students of color reported feeling disconnected from their usual supports (low-income: 49%; students of color: 55%). About one in four (23%) had their job or internship cancelled, 35% had their internship modified, and 12% had to alter their plans to be able to support themselves or their families financially.

All of the issues discussed thus far have undeniable impacts on students' ability to engage in academic work and be successful. Furthermore, these new stressors combined with rapid, unexpected changes to students' physical surroundings, time commitments, and ability to access campus resources such as campus computers, printers, and more have undoubted implications for the ways they navigate and negotiate boundaries during the era of ICT reliance and stay-at-home orders. But clearly, while many students are experiencing hardship during the pandemic, underrepresented students' experiences are quite different than their traditional student counterparts. The second goal of this study is to learn more about the differences between underrepresented students and their traditional student counterparts with the intention of exposing not only material inequalities that have been exacerbated by the pandemic, but also navigational, social, and financial inequalities that impact boundary management and that are currently underexamined. Based on the findings of the three aforementioned surveys, the present study poses an additional hypothesis:

H4: Underrepresented students experience a) boundary flexibility, b) boundary permeability, and c) work-life conflict differently than their traditional student counterparts.

Methods

This study employs a mixed methods sequential explanatory design (Creswell & Creswell, 2017) which consists of two distinct phases: quantitative followed by qualitative. In the present design, Study 1 quantitatively tests the aforementioned hypotheses through the use of a survey instrument. Study 2 is a follow-up explanatory study that qualitatively unpacks the findings of Study 1 in order to achieve a more nuanced and in-depth understanding of the data through the use of a focus group design.

The rationale for this approach is that quantitative data and its subsequent analysis provide a general understanding of the research topic while the qualitative analysis can refine and explain those statistical results by examining participants' experiences in more depth. This approach is advantageous when studying the novel impacts of the pandemic by providing both quantitative and qualitative perspectives, which elicit breadth and depth on the topic of undergraduate student boundary management. College students, especially underrepresented students, have been given little attention in the extant boundary management literature. As such, this approach allows the present research problem to be captured with more breadth and depth.

Study 1 Sample

Three hundred and thirty-eight undergraduate students from a University of California (UC) campus completed a survey measuring their underrepresented identities, boundary flexibility, boundary permeability, work-life conflict, exhaustion, and boundary communication behaviors. To quantitatively capture and compare the differences between underrepresented and traditional students, participants were purposefully recruited from a UC campus that is currently receiving Title III, V, and VII grant funding, which aims to increase underrepresented student population matriculation and graduation rates. In order to be eligible for these types of grants, institutions must, at minimum, meet the following requirement: at least 50 percent of an institution's degree-seeking students received financial assistance under the Federal Pell Grant, Federal SEOG, Federal Work Study, or the Federal Perkins Loan Programs, or the percentage of an institution's undergraduate degree-seeking students who were enrolled at least half-time and received Federal Pell Grants exceeds the average percentage of the same at similar institutions (U.S. Department of Education). Additionally, the institution from which this study recruits is designated as a Hispanic Serving Institution (HSI, Title V program). In order to obtain this designation, the institution must have an enrollment of undergraduate full-time equivalent students that is at least 25 percent Hispanic students at the end of the award year immediately preceding the date of application (U.S. Department of Education).

Participants for this study were recruited through convenience and snowball sampling methods. They were able to sign up for the study through the institution's SONA participant pool and received course credit for their responses to the survey or were sent a direct link to the survey through one of the aforementioned campus resources' newsletters and list-servs. Partnerships with institutional on-campus resource centers such as the First-Generation

Community, Promise Scholars, and the Opening New Doors to Acceleration Success (ONDAS) center were also established to recruit larger numbers of underrepresented students. All of the aforementioned resource centers and programs cater predominantly to underrepresented students.

25% of respondents identified as male (n = 85), 73% identified as female (n = 249), about 1% identified as either transgender (n = 1) or gender non-binary (n = 3). Additionally, 47% of the sample identified as White/Caucasian (n = 159), 28% identified as Asian/Pacific Islander (n = 95), 12% as Hispanic/Latinx (n = 40), 9.5% identified as two or more races (n = 32), 2.4% selected the "other" option and self-identified as Middle Eastern (n = 8), and less than 1% identified as African American (n = 3). 31% of participants self-identified as first-generation students (n = 103), and 7.7% identified as international students (n = 26). 30% reported an annual household income of less than $60,000 per year, 38% reported an annual household income between $60,001 and $100,000, and 32% reported an annual household income of $100,001 or more.

Study 1 Procedure and Measures

In the finalized study, 338 participants were asked to complete a 15-minute Qualtrics-based questionnaire. First, they viewed and completed an informed consent form. They then completed questionnaire items which aimed to capture their academic identities (underrepresented v. traditional), boundary flexibility, boundary permeability, work-life conflict, exhaustion, and boundary communication behaviors.

Academic Identities and Intersectionalities. Because first-generation students are a highly studied population in higher education (Nguyen 2018), the present study utilized the UC's 2017 report on first-generation student success to operationalize underrepresented

identities. In addition to first-generation status, the UC report clearly indicates that international students, low-SES students (students who are Pell Grant recipients/display financial need), and students of color are all minority groups on UC campuses and are more likely to identify as first-generation. In the present study, students were considered underrepresented if they self-identified as one or more of the following underrepresented groups: 1) first-generation (neither parent received a college degree), 2) an ethnic minority (e.g., Hispanic/LatinX, Black/African American, Middle Eastern, etc.), 3) low-SES (reports a household income of less than $60,000 per year), and/or 4) an international student.

According to Nguyen (2018), first-generation students typically experience a variety of intersecting, underrepresented identities. In their chapter on inequality in higher education, Nguyen (2018) champions a more nuanced approach to studying how students' individual backgrounds and identities shape their educational experiences by looking beyond only one underrepresented status and examining underrepresented intersectionalities. Intersectionalities refer to the overlapping and interconnecting identities which individuals hold. Students with multiple underrepresented identities may be impacted in various ways, depending on the combination of intersecting identities they experience.

As such, underrepresented identities were indexed to account for the number of underrepresented intersectionalities and ranged from 0 to 4, where 0 represented traditional college students, 1 represented students with only one underrepresented identity, and 2 through 4 represented two, three, or four or more underrepresented intersectionalities, respectively.

Of the 338 participants, 50.6% identified as traditional college students (n = 171), while the remaining 49.4% reported identifying as at least one underrepresented student category (n = 167). Of the 49.4% of underrepresented student participants, 46.1% reported two or more underrepresented intersectionalities (n = 77). Overall, 30.5% of participants identified as first-generation (n = 103), 24.6% as an ethnic minority (n = 83), 19.8% as low-SES (n = 67), and 7.7% as international (n = 26).

Boundary flexibility and permeability. Prior to administering the finalized questionnaire, the survey instrument was pilot tested to ensure inter-item reliability for each variable. 25 undergraduate students were asked to participate in the pilot study. The original items used to capture boundary flexibility yielded a suboptimal Cronbach's Alpha ($\alpha = .45$) and were replaced with a different, validated measure described below. All other items produced a satisfactory Cronbach's Alpha and were kept ($\alpha > .7$).

Boundary flexibility was measured using the Family Flexibility-Ability subset of Matthews et al.'s (2010) Boundary Flexibility for the Work and Family Domains Scale. The subset consists of 6 items which participants rated on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). Some items were modified to utilize school-related rather than work-related language (e.g., "If the need arose, I could complete my schoolwork late in the evening without affecting my family and personal responsibilities"). One item from the subset was dropped ("I am able to arrive and depart from home when I want to meet work responsibilities (FFA6)" as it was not relevant during the COVID-19 stay-at-home orders and all participants were working remotely ($M = 3.44$, $SD = 0.70$, $\alpha = .52$).

Boundary permeability was measured using Clark (2002)'s Permeability measure which consisted of 6 items. Some items were modified to utilize school-related rather than work-related language (e.g. "I hear from people related to my schoolwork while I am at home"). Participants rated items on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree; $M = 3.9$, $SD = 0.66$, $\alpha = .72$).

Work-life conflict. Netemeyer et al.'s (1996) Work-Life and Life-Work Conflict Scales were used to measure work-life conflict but modified such that work-related terms were changed to school-related terms (e.g., "The demands of my school activities interfere with my home and family life" or "the demands of my family or spouse/partner interfere with school-related activities"). Nine items were rated on a 5-point scale from 1 (never) to 5 (frequently; $M = 3.06$, $SD = 0.92$, $\alpha = .93$).

Exhaustion. Exhaustion was measured using an Emotional Exhaustion subset of items from Maslach and Jackson's (1981) measure of experienced burnout. The subset consists of 9 items which were modified from work-related language to depict school-related language (e.g. "I feel emotionally drained from my *schoolwork*"). Items were rated on a 5-point scale from 1 (None at all) to 5 (A great deal; $M = 3.47$, $SD = 0.80$, $\alpha = .90$).

Boundary communication. Items from Clark's (2002) scale measuring communication across the work/home border were used to assess boundary communication behaviors. The first set of questions addressed communication with family about work and consisted of 3 items. The second set of questions addressed communication with work associates about family and consisted of 4 items. This study utilized a modified version of Clark's (2002) items in which work-related terms were replaced with school-related terms, and family-related terms were replaced with non-school related terms. Additionally, this

study generated a new set of questions to address communication about non-school activities with academic associates (e.g., “I discuss my family obligations with my Tas, professors and/or administrators”). These questions were constructed by closely mimicking the structure and wording of the existing scale items but replacing work-related terms with school related terms and work associates with academic associates. Participants were asked to indicate how much they agreed with each item on a 5-point scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree; $M = 2.30$, $SD = .77$, $\alpha = .82$).

Study 1 Results

To review, this study examined the effects of boundary flexibility and permeability on college students’ experiences of exhaustion and the indirect effects of work-life conflict on these relationships. Additionally, a primary goal of this study is to disaggregate the data in order to capture the different experiences of traditional and underrepresented students. Table 1 shows descriptive statistics and correlations for the variables studied. To test the proposed mediation and moderation models, further analyses were conducted using PROCESS Macro in SPSS (Hayes, 2017).

Hypothesis 1: Boundary Flexibility and Exhaustion

A simple linear regression was calculated to predict exhaustion based on boundary flexibility, $b = -.27$, $t(335) = 20.65$, $p < .01$. A significant regression equation was found, ($F(1, 335) = 25.87$, $p < .01$). These results provide support for H1a predicted that boundary flexibility will be negatively related to exhaustion.

To test H1b, which predicted that work-life conflict mediates the negative relationship between boundary flexibility and exhaustion, an additional simple mediation

analysis was performed using PROCESS (Model 4). The outcome variable for the analysis was exhaustion, the predictor variable for the analysis was boundary flexibility, and the mediator variable for the analysis was work-life conflict. The indirect effect of boundary flexibility on exhaustion via work-life conflict was statistically significant [effect = -.43, 95% C.I. (-.54, - .34)]. Therefore, H1b was supported.

Hypothesis 2: Boundary Permeability, and Exhaustion

A second simple linear regression was calculated to predict exhaustion based on boundary permeability, $b = .26$, $t(334) = 9.70$, $p < .01$. A significant regression equation was found, ($F(1, 334) = 24.26$, $p < .01$). This provides support for H2a which predicted that boundary permeability will be positively related to exhaustion.

To test H2b, which predicted that the positive relationship between boundary permeability and exhaustion will be mediated by work-life conflict, an additional simple mediation analysis was performed using PROCESS (Model 4). The outcome variable for the analysis was exhaustion, the predictor variable was boundary permeability, and the mediator variable was work-life conflict. The indirect positive effect of boundary permeability on exhaustion via work-life conflict was statistically significant [effect = .15, 95% C.I. (.07, .24)]. Therefore H2b was supported.

Hypothesis 3: Boundary Communication

To investigate whether boundary communication behaviors influence the positive relationship between boundary permeability and work-life conflict, a simple moderation analysis was performed using PROCESS (Model 1). The interaction between boundary

permeability and boundary communication was not statistically significant [B = .04, 95% C.I. (-.13, .22), p = .61]. Therefore, H3b was not supported.

However, boundary communication was measured on two dimensions: communication with family about school-related demands, and communication with academic or school associates (faculty and teaching assistants) about family demands. When disaggregated, descriptive statistics for the measures of boundary communication indicated very low rates of student boundary communication with faculty and teaching assistants (M = 1.53, SD = .74). This might explain why boundary communication behaviors were not found to reduce the negative impacts of boundary permeability on work-life conflict.

Hypothesis 4: Underrepresented Students' Experiences

To test H4, which predicted that underrepresented students experience boundary flexibility, boundary permeability, and work-life conflict differently than their traditional student counterparts, several analyses were conducted.

First, bivariate correlations were conducted between the number of underrepresented intersectionalities, boundary flexibility, boundary permeability, and work-life conflict, all of which were found to be significant. More underrepresented student intersectionalities were negatively related to flexibility (r = -.13, p < .05), negatively related to permeability (r = -.11, p < .05), and positively related to work-life conflict (r = .18, p < .05). To further examine these relationships, mean comparisons were conducted to compare the means of boundary flexibility, boundary permeability, and work-life conflict among each underrepresented

student category (first generation, ethnic minority, low-SES, international student) and their traditional student counterparts.

Independent samples t-tests revealed that first, first generation students experienced somewhat less boundary flexibility $t(329) = 1.97$, $p < .05$; $M_{trad} = 3.48$, $SD = .65$, $M_{first} = 3.33$, $SD = .69$. and significantly more work-life conflict than traditional students $t(329) = -2.29$, $p < .05$; $M_{trad} = 5.96$, $SD = 1.84$, $M_{first} = 6.47$, SD = 1.86, but boundary permeability was not significantly different between these two groups $t(329) = 1.79$, n.s.

Second, the tests indicated that students who identified as ethnic minorities (ethnicities other than Caucasian or Asian/Pacific Islander) also experienced significantly more work-life conflict than their traditional counterparts $t(335) = -2.38$, $p < .05$; $M_{trad} = 5.99$, $SD = 1.83$, $M_{minor} = 6.54$, $SD = 1.84$. However, neither boundary flexibility $t(335) = 1.51$, n.s., nor boundary permeability $t(335) = 1.46$, n.s. were significantly different between these two groups.

Third, the tests indicated that students from low-SES experienced significantly less boundary flexibility $t(313) = 3.55$, $p < .05$; $M_{trad} = 3.51$, $SD = .04$, $M_{low\text{-}SES} = 3.20$, SD =.08, and significantly more work-life conflict than their traditional counterparts $t(313) = -3.94$, $p < .05$; $M_{trad} = 5.93$, $SD = 1.83$, $M_{low\text{-}SES} = 6.93$, $SD = 1.84$, but that boundary permeability was not significantly different between these two groups $t(312) = 1.31$, n.s.

Additionally, the tests also revealed that students who identified as international students experienced less boundary permeability than their traditional counterparts $t(334) = 2.25$, $p < .05$; $M_{trad} = 3.91$, SD = .68, $M_{inter} = 3.59$, SD = .16, but that there were no

statistically significant differences in boundary flexibility counterparts $t(335) = -1.94$, n.s., or work-life conflict between these two groups $t(334) = 1.96$, n.s.

All of the aforementioned results provide support for H4 by showing that when the data was disaggregated, it became clear that work-life conflict is consistently higher in underrepresented students (vs traditional students), with the exception of international students. And overall, first-generation, and low-SES students are disproportionately affected by boundary issues (lower boundary flexibility and more work-life conflict) than other underrepresented groups.

Rationale for Study 2

The quantitative data of this research indicates that students' academic identities as either traditional or underrepresented sometimes result in unique experiences. Even more so, the results of Study 1 imply an additional demarcation between the experiences of domestic underrepresented students and international students, who are also classified as underrepresented. For example, first generation, ethnic minority and/or low-ses students experienced less boundary flexibility, more work-life conflict, and reported engaging in fewer boundary communication behaviors than other student groups, while international students experienced less boundary permeability than other groups.

Because many of the underrepresented participants, particularly those who were domestic, identified with more than one underrepresented category, the present research seeks to further investigate the experiences of students with such complex intersectionalities

in order to better support them. As such, three research questions emerge from the quantitative findings of Study 1:

RQ1: What are the key similarities and differences between the experiences of domestic underrepresented students, international students, and traditional students?

RQ2: Why might international students experience less boundary permeability than other groups?

RQ3: Why might domestic underrepresented students experience less boundary flexibility and more work-life conflict than other student groups?

Study 2 Methods

In an effort to better understand the quantitative findings of this study, semi-structured focus groups were conducted with domestic underrepresented students, international students, and traditional students. The goal of these focus groups is 1) to explore similarities and differences in boundary-related experiences across student groups in more depth, 2) to assess the integrity of the quantitative findings by checking for convergence or divergence between methodologically different data sets, and 3) to seek out potential explanations for why students have differing boundary-related experiences based on their academic identities.

Study 2 Sample

To address the research questions which arose from the findings of Study 1, 29 undergraduate students were recruited either through the UCSB SONA participant pool or

through the researchers' personal network and snowball sampling techniques. Students who volunteered to participate through the UCSB SONA participant pool were awarded 1 credit hour of course credit while students who signed up through a google form sign-up sheet received a $15 gift card upon completing their participation.

Participants represented a variety of college majors which include Communication, Political Science, Computer Science, and Chemistry. 65% of participants identified as female (n = 19), 31% as male (n = 9), and 3% as gender non-binary (n = 1). 45% of participants identified as first-generation students (n = 13); 28% identified as international students (n = 8) with home countries such as China, Taiwan, and Brazil; 24% of students identified as low-SES (n = 7), and 21% as ethnic minorities (n = 6). Additionally, of the students who were categorized as underrepresented (first generation, ethnic minorities, low-SES, international; n = 19) 63% self-reported more than one underrepresented identity (n = 12). Among domestic underrepresented students only (first generation, ethnic minorities, low-SES; n = 11) 73% self-reported more than one domestic underrepresented identity (n = 8; See Table 2).

Study 2 Procedure

Participants were directed to a brief demographic questionnaire through either the UCSB SONA participant website or a direct link sent via email, which assisted in sorting them into virtual focus groups based on their academic identities as domestic underrepresented students, international students, or traditional students. In order to qualify as a domestic underrepresented student, participants must have reported one or more of the following identities: first-generation, ethnic minority, low-SES. To qualify as an international student, participants must have reported official university-recognized status as an

international student. To qualify as a traditional student, students must have answered “no” to all questionnaire items which asked if they identified with each of the underrepresented categories (first generation, ethnic minority, low-SES, international). Qualified participants were notified of their selection and were provided an informed consent form via email approximately 48 hours prior to the scheduled session. A total of 6 focus groups took place via Zoom over the course of two weeks. Focus group durations ranged from 50 minutes to 1.5 hours in length and consisted of 3 to 6 participants each.

The present study utilized a semi-structured focus group protocol to address each research question which can be found in Appendix D. Each focus group session began with the researcher introducing herself and informing the participants about the overarching objective of the study. For focus groups consisting of underrepresented students, the researcher also revealed her own identity as a first-generation student in order to build rapport with participants and create a safe environment for them to express their challenges. The protocol began with broad questions such as “How have you fared during the pandemic?” and became increasingly narrower in pursuit of specific experiences surrounding constructs like boundary flexibility and permeability, and work-life conflict.

All focus group sessions were audio-recorded using Zoom. Additionally, 1 of 5 trained research assistants was randomly assigned to attend a separate focus group session in which they were instructed to take descriptive field notes, including the documentation of recurring themes and keywords. Research assistants were also directed to engage in a brief, reflective writing exercise immediately following the conclusion of each focus group in which they provided insights and reflected on their observations. The research team consisted

of the researcher, 3 underrepresented undergraduate students, and 2 traditional undergraduate students. This research team composition was especially advantageous as these students had a personal connection and deep understanding of the topic being studied.

A cyclical procedure was developed by the researcher to ensure research assistants were exposed to as much of the dataset as possible, so that they may also assist in the inductive analysis process. The process included 1) randomly assigning a research assistant to attend a focus group and take field notes (role of "note-taker"; note that one research assistant took notes for 2 session due to an odd number of assistants), 2) assigning each research assistant to transcribe verbatim an audio recording of a session which they had not attended (role of "transcriber"), and 3) randomly assigning 2 research assistants as coders per transcript (role of "coders"). Focus group sessions took place every other business day for 2 consecutive weeks. The researcher uploaded each audio recording into a password-protected, shared folder approximately 30 minutes after the conclusion of each session. The "note-taker" was instructed to upload their field notes to the shared folder by 11:59PM PDT the evening of the session. "Transcribers" were given 48 hours from when the audio recording was uploaded to the folder to transcribe it and upload it to Atlas.ti for analysis. "Coders" were instructed to conduct open coding of the transcript within 48 hours of the transcript being uploaded to Atlas.ti. The team met weekly to provide progress reports and discuss findings.

Study 2 Data Analysis

Completed transcripts produced 246 double-spaced pages of data which was entered into Atlas.ti for analysis. To investigate the contents of these transcripts, the present study

took a grounded theory approach and utilized a constant comparison method to guide the analysis through three iterative stages: open coding, selective coding, and axial coding (Strauss & Corbin, 1998; Tracy, 2019). Research assistants were trained in open coding methods and contributed to the open coding stage of the analysis.

The open-coding process consisted of 6 coders (5 research assistants and the researcher) identifying emergent themes within the data. Next, the researcher utilized an axial coding process (Strauss & Corbin, 1998) to further classify the relationships between student groups and their experiences for each demographic group (domestic underrepresented, international, and traditional) in relation to participants' group identities, work-life boundary characteristics (flexibility and permeability), work-life conflict, and boundary communication. Lastly, the researcher employed a process of selective coding (Strauss & Corbin, 1998) to identify core experiences mentioned or described by participants when discussing how they have fared during the COVID-19 pandemic and through forced remote work.

Findings

Similarities across Groups

To address RQ1 we examined the data for similar themes across all focus group types. In convergence with the findings of Study 1, the focus group data revealed that all student groups experienced increased boundary permeability, increased work-life conflict, and feelings of exhaustion as a result of forced remote work, regardless of their academic identities.

Increased Boundary Permeability

In a focus group of domestic underrepresented students, Participant 1 describes his experience of increased permeability as a "blending" of domains and expresses that he is struggling with it:

> At this point in my life, I'm having difficulty [with the] blending [of] what is personal and what is professional or academic or creative. I feel like they're all just blending together right now.

Similarly, in a focus group consisting of international students, Participant 17 gives an example of the increased boundary permeability she experiences now, while working and learning remotely, as opposed to the clearer boundaries she experienced when going to school face-to-face:

> I did have work-life balance back then when I was living on campus. [...] I had a school routine. I go to school every morning, I get myself a coffee, and then by the end of the day, when I go home, I get to rest and like, chill. But right now, it's just... there's no distinction.

While traditional students did not explicitly mention experiencing increased permeability, many of them provided anecdotal evidence to support that they too are experiencing overlap between their work and life domains. For example, Participant 27 describes how activities in her home, which she shares with 6 other people, permeate into her schoolwork:

> The hard part is when my roommate has meetings and when I have meetings and then another housemate is like, oh, "can I bring a couple friends over [to visit] for the

weekend" or something and they're here. So then it's hard to coordinate a place for everyone to be able to do their meetings.

These examples indicate increased permeability in the physical boundaries between work and life, school activities and non-school activities. Physical boundaries are defined by the segmentation or specification of physical spaces for work, life, or school-related roles. Previous research suggests that, for working professionals, certain physical spaces are associated with certain roles (Ashforth, 2000), but more current investigations suggest that this was less true for college students even prior to the pandemic (Lim et al., 2017). While academic and social domains already overlapped and interfered with one another prior to the pandemic, physical boundary permeability is further exacerbated by campus closures and remote work. Like in the example provided by Participant 27, non-school spaces are now school spaces as well, creating opportunities for the two domains to conflict more easily, especially when all communicative activity with anyone outside of students' immediate household is now ICT mediated.

Increased Work-Life Conflict and Subsequent Feelings of Exhaustion

Past research suggests that indeterminate exit cues from one role to another due to a lack of separation between physical workspaces and living spaces are predictive of work-life conflict (Ashforth et al., 2000; Clark, 2000). Moreover, recall that many students from underrepresented populations report inadequate physical working spaces and unreliable access to technology as a result of the pandemic. It does not come as a surprise, then, that participants reported increased work-life conflict across the board and in various ways.

For example, Participant 3, a domestic underrepresented student, describes a time when the strain of intentional role transition stemming from increased boundary permeability resulted in a clash between online school activities and her paid job:

> I've actually been in [a] situation when I was at work and I'm like, "Oh my God, [I forgot that] I have a Zoom meeting." Luckily that day my boss was really lenient about it. But other days I've done a pretty [good] job of planning, like, okay, I have a meeting on this day, so I can't come into work at this time. But in other times I've had to miss meetings because I can't miss work. It's kind of hard to balance the two of them. I'm still kind of working on that.

Similarly, Participant 12, an international student, expresses her desire to receive a COVID-19 vaccine so that she can reduce the negative impact of increased physical boundary permeability. She reports experiencing work-life conflict in that her schoolwork is negatively impacted:

> I'm trying to just get vaccinated and then go to coffee shops because I definitely just cannot study at home because you do everything in the same place. It doesn't work that way; you have to have like a room for studying or room to sleep. It becomes really inefficient to study in a place that you sleep, you rest. So I just have to get that vaccine and go out to the coffee shop or else I can procrastinate a lot.

Likewise, Participant 8, a traditional student, describes a work-life conflict scenario in which family activities interfere with her schoolwork and her paid job:

> In terms of family stuff, my family tends to want to schedule stuff with me because I'm here and I seem free. So a lot of times plans like that with my family just randomly come up. And I think just because of all the work going on, there are a lot of times where I have to explain why I didn't do something in time, or whatever, to the TA or professor or my boss.

The focus group data extends the findings of Study 1 by providing insight into what exactly work-life conflict might look like for students experiencing pandemic-related boundary permeability. While students expressed various types of work-life conflict such as school v. paid job, school v. personal life, or school v. family life v. paid job, there was a clear relationship between experiences of increased boundary permeability and work-life conflict. This was especially true for students living in environments where there were frequent distractions or interruptions, which prevented them from completing their schoolwork on time.

Finally, these qualitative findings provide support for the results of Study 1, which concluded that work-life conflict mediates the positive relationship between boundary permeability and exhaustion. Across all three types of student groups, almost every single participant expressed that they experienced more boundary permeability across their work and life domains and that the constant, required effort to avoid work-life conflict led to feelings of exhaustion. Terms which were most commonly used to describe these feelings include: “tired”, “lethargic”, “burnt out”, “drained”, and “exhausted”.

Lack of Boundary Communication with Faculty and Teaching Assistants

On the other hand, the findings from Study 1 indicated that boundary communication with faculty and teaching assistants was very uncommon across the entire dataset. To better understand why this may be, the researcher first asked focus group participants about who typically they speak to when they are experiencing work-life conflict. In convergence with the quantitative findings, not a single student in any of the focus groups reported communicating about their work-family demands with a faculty member or a teaching assistant. Because of this, the researcher explicitly probed them about it. Across all focus groups, students generally agreed that they would not approach a faculty member or teaching assistant to discuss a discrepancy in work-life demands. However, reasons varied by focus group type.

In the domestic underrepresented student groups, participants often cited impression management and fear as reasons for not communicating with faculty or teaching assistants. For example, Participant 4 expressed fear of making a bad impression, with which their entire focus group agreed:

> I'm just scared of saying the wrong thing or making the wrong impression. Um, and kind of just like messing up, which I think is a big part as to why I don't go to office hours. Cause I feel like it's just like, I'm pitting myself up against like my professor, my TA.

In contrast, international students did not describe feelings of fear or discomfort, but rather, many of them described a cultural difference in the status of educators. For example, Participant 19 explains that in other countries, like his own, students perceive more power

distance (Hofstede, 2011) between educators and themselves, and therefore will not discuss personal matters in office hours out of respect for their teachers' time:

> I think the basic reason why I don't use office hours a lot [is] because in China, we don't really contact our teachers for personal matters, and I sometimes don't think it is appropriate to just get into the office hour and talk about something unrelated to the coursework or something like that. So, most times when I need support, I might not [go] to the professor because I suppose this is not the occasion to do that.

Both domestic underrepresented students and international students describe a perceived power distance between themselves and educators. For domestic underrepresented students this translates to fear of being perceived as inferior or as being disliked by someone with authority or higher status. For international students, this power distance generates a higher level of respect and leads students to avoid discussing personal matters which they consider to be a trivial and disrespectful topic of conversation.

However, this perceived power distance was not observed in the responses of traditional students. Rather, traditional students expressed feeling a lack of connection with their professors and teaching assistants due to a lack of perceived social proximity (Wilson et al., 2008). For example, Participant 29 describes that she would feel more inclined to communicate with a faculty member or teaching assistant if she had more common ground and shared history with them:

> I don't know. I just don't find myself going to office hours ever. There's not really a specific reason why, I just tend not to. But I did have like a teacher in high school

> [who I spoke to often], and I had her for like three years in a row. So I feel like once you have a TA or professor, any kind of teacher for a long period of time, then you become more comfortable to talk to them about things like that.

Participant 29, among other traditional students, expressed difficulty connecting with their professors and teaching assistants due to the constraints of remote learning.

In face-to-face settings, it is far easier to engage in unplanned interactions because of the physical closeness of faculty or teaching assistants and students. ICT-reliant work creates constraints that limit these informal or serendipitous interactions (DeSanctis &Monge, 1999; Gibson & Gibbs, 2006). As such, disclosure is hampered by inexperience with the other party, in this case students' inexperience with their professors and teaching assistants (Gibson & Cohen, 2003). In order to establish a relationship with professors and teaching assistants during COVID-19, students need to be far more intentional about the frequency and depth of their interactions. Being physically distant from their professors and teaching assistants leads students to feel more psychologically distant from them as well. As such, they do not attend office hours or engage in boundary communication behaviors with faculty or teaching assistants at all. These findings indicate a need for intervention, as past research on boundary communication underscores the importance of communicating about cross-boundary demands to reduce work-life conflict (van Zoonen et al., 2020).

Differences between Groups

In order to address RQs 2 and 3, the data was carefully analyzed for unique differences between focus group types. In the present analysis, I highlight themes which are

specific to either international students or domestic underrepresented students. Because a primary goal of this research is to illuminate the distinct challenges of underrepresented students, the following analysis prioritizes their experiences over those of traditional students. The research questions address the differences which emerged from Study 1 and so the present section discusses only the dependent variables for these student categories which were found to be significantly different from other groups.

International Students

To address RQ2, data from all focus group types were selectively coded for themes regarding boundary permeability and compared for differences. This approach was adopted for two reasons: first, to determine if there was either convergence or divergence with the quantitative data which concluded that international students experience less boundary permeability than other student groups, and second, to seek out possible explanations for why that may be.

Strong Temporal Boundaries Due to Time Zone Differences. In convergence with the quantitative findings, the qualitative findings also suggest that international students living abroad experience less boundary permeability due to their temporal incompatibility with family and friends' schedules, resulting in strong temporal boundaries. Across the data, all but two international students were living abroad, and the majority of students were from China. Because of the drastic time differences between the U.S. and their home countries, international students living abroad reported a complete inversion of their daily-schedule, such that they are working through the night and sleeping through the day in order to accommodate school-related activities in U.S. time zones. As a result, they experience less

permeability of the boundaries between their school domains and life domains. For example, Participant 16 describes her current work schedule as so drastically opposite of the rest of her family, that despite living in the same house, they do not see each other:

> My grandparents live downstairs [in] our home and because of all my classes, I sleep in the morning and [I'm] up all night. Although they just live downstairs, they [haven't] see[n] me in months. We just have different schedules. I feel like, studying online is kind of separate. My real life and my school life, it should be combined together but it actually isolates me from the family life I have.

Evidently, geographic dispersion brought on by stay-at-home orders has resulted in far less work-life boundary permeability for international students. Their inverted sleep schedules allow these students to focus on schoolwork without distractions from family or social relations. However, in contrast to previous work on work-life boundaries, the findings from Study 1 indicate that despite experiencing low permeability, international students are still experiencing work-life conflict. This is likely a result of decreased temporal boundary flexibility, as international students are restricted to taking classes that are scheduled at a time which is reasonable for them to attend. Participant 11 describes an experience of work-life conflict in which her inability to adjust to an abnormal sleep schedule directly conflicts with her time-to-degree:

> I originally had five classes and then I had to drop two of them because it was just too much […] I just couldn't do it like mentally and physically too, it was just too early. Like 5:00 AM in the morning I have to wake up and then I had to go to sleep for like an hour and I had to wake up [again] at like eight to do another class. […] we're not

> in the same situation as everybody else. […] we have to make these choices. And it sucks because I want to graduate.

While participant 11 was unable to sustain an inverted sleep schedule, others reported forcing themselves to meet the demands of being enrolled in synchronous courses taking place in a different time zone. As a result, these students also reported feeling absolutely exhausted. Similarly to Participant 16, Participant 13 provides insight into his strenuous daily schedule:

> So my schedule typically looks like this: I wake up around 6:00 PM in China and I will stay up all night because I have synchronous classes and synchronous sections. So I have to go through those sections. I have to go to those office hours and then I have to stay all the way up the whole morning and I'm probably not going to be able to sleep until like 2:00 PM [the next day]. So I would probably sleep for like four or five hours per day if I'm busy that day and then I sleep like the whole day on the weekend.

These findings demonstrate the advantage of a mixed-methods approach to diversity topics. The deductive, theoretical rationale for this study led the researcher to predict that lower permeability would lead to lower work-life conflict. However, the findings of Study 1 showed that despite experiencing fewer interruptions, international students do not experience any less work-life conflict than other students. In complement, the qualitative findings of Study 2 clearly illustrate that this is because many international students are sustaining physically exhausting work and sleep schedules in order to attend classes scheduled in US time zones. This provides more insight into the experiences of international students beyond the scope of the Study 1 alone.

Domestic Underrepresented Students

To address RQ3, data from all focus group types were selectively coded for themes regarding boundary flexibility and work-life conflict and compared for differences. This approach was adopted for two reasons: first, to determine if there was either convergence or divergence with the quantitative data which concluded that domestic underrepresented students are more likely to experience less boundary flexibility and greater work-life conflict, and second, to seek out possible explanations for why that may be.

Inflexible Boundaries. In convergence with the quantitative findings, the focus group data revealed that domestic underrepresented students experience very low boundary flexibility. One explanation that emerged from the data is that these students often simultaneously maintain one or more paid jobs and are highly involved in various extracurricular activities, both of which contribute to temporally inflexible schedules. For example, Participant 2 explains that his work schedule is rigid and as a result, he has less flexibility in when he can attend to schoolwork:

> I have a pretty set, routine schedule […] I work as well, so I work four days [a week], but I'm not, full-time. It's only like five-hour shifts, so it's not too bad. It's from eleven to four and it's four consecutive days. So on Mondays [and] Tuesdays, I usually just try to bust out as much [school]work as I can at the start of the week because professors generally have everything up by then.

Much like Participant 2, every single domestic underrepresented student reported working at least one part-time job with a semi-regular schedule that impacts when and where they can

complete their schoolwork. In addition to job responsibilities, a majority of the participants also reported high involvement in extracurricular activities. For example, Participant 1 provides insight into his very busy schedule:

> I would say for Spring quarter, there's definitely more synchronous classes, than there [were] previously in Fall and Winter. So there is a little bit more structure there, which is great. It is a bit difficult though because I also work. [My] time management and organizational skills, though, have increased severely just because it's absolutely necessary. And then that on top of, you know, like [another participant] was saying, extracurricular activities.

This participant, much like many of the other domestic underrepresented students, is taking several regularly scheduled, synchronous classes, routinely going to a paid job, and is highly involved in campus activities, all during a global pandemic. These students' work-life boundaries are not only far less flexible because of the number of responsibilities they undertake, but as mentioned previously, their work-life boundaries are also more permeable, both which have adverse effects on their work-life balance.

Work-Life Conflict. The findings from Study 1 indicated that work-life conflict is negatively related to boundary flexibility and positively related to boundary permeability, which provides support for the qualitative finding that domestic underrepresented students are experiencing high levels of work-life conflict. In particular, extracurricular activities were frequently cited as the source of these students' experiences of work-life conflict. For example, Participant 4 reports a highly inflexible schedule as she is enrolled in 20 units, is working a part-time job, and holds leadership positions in several student organizations. Her

experience is a clear example of how low boundary flexibility and ICT-enabled boundary permeability results in work-life conflict:

> I definitely feel some conflict [between] the organizations I'm in [and other domains]. They kind of have a lot of last-minute meetings or they'll message me like, "Oh, are you available for a call or something?" And then, I'll be in the middle of like relaxing or hanging out with my parents and I'll be like, "Oh, I guess I can take another call" […] So then I kind of allow like that to intrude on my home life just because I feel like, you know, well, my laptop's right there, you know? Like there's no reason why I can't do it. So then I feel like it kind of disrupts that border I have between home and work.

These reports of excessive coursework and volunteer work led the researcher to probe participants about why they are taking on so many additional responsibilities and roles. From the responses to this question, a vital theme emerged: a strong drive to close the equity gap between themselves and their traditional counterparts.

Closing the Equity Gap. In the domestic underrepresented student focus groups, participants attributed their immense workloads to experiencing intense pressure to close the equity gaps between themselves and traditional students. Two types of pressures were described: familial pressure and temporal pressure. Familial pressure refers to the social pressure experienced due to family expectations, while temporal pressure refers to the social pressure to complete a college education within a set amount of time that does not deviate from a traditional 4-year trajectory. These external pressures push domestic underrepresented students to take on additional coursework, excessive volunteer positions, and other

commitments that are outside of the requirements of their programs. For example, Participant 23 explains the familial pressure placed on him as a first-generation student of color and of immigrant parents to succeed and honorably represent his family:

> The way my family functions, especially my dad [...] both my parents are completely enamored with the myth that education will make you a lot of money. Like the next Bill Gates, the next Steve Jobs, like the next millionaire, or like the next big idea. [...] And what they fail to realize is that a lot of these people are in positions of power or privilege already. So it's really hard to know that and explain that to my parents where they don't see it, or they don't really understand the dynamics of power, especially like as an underrepresented group within the U.S. So that's been my experience with my parents. Kind of like [what their expectations are] for work in the future, and my education, and how I play a role in featuring my family's sense of money and having them rely on me.

This student unmistakably recognizes the inequalities he is facing in higher education as an underrepresented student but is struggling to address the issue with his family. Because of his family's misconception that a college degree guarantees financial security, this student takes on excessive responsibilities in order to compensate for the gap in social and academic capital between himself and his traditional counterparts.

Furthermore, some students rationalize taking on unreasonable workloads by comparing themselves to their family members who have endured great hardships and invest a lot of time and effort into working as to provide better opportunities for their children. For

example, Participant 2 diminishes his own struggles by comparing himself to his immigrant parents who are extremely hard working:

> I definitely am subscribed to that mentality. Like my dad hardly ever goes on vacation, he's always working. Like my mom, same, she rarely goes on vacation. So I guess it just puts it into perspective. They come from like a remote village in Nepal. I'm just like, if they didn't complain about little things, then I have no right. Even if it's justified, I'm just like, it's not worth it. My parents went through a lot of stuff that I didn't have to go through.

Additionally, several other domestic underrepresented students who also identify as non-traditional students expressed that, they too, take on extra commitments in order to "catch up" to younger, traditional students. For example, Participant 1 describes the temporal pressures that he faces:

> Especially as a non-traditional student, being older in school, it already feels like the clock has gone out. Like you are coming to the game so late and if you do not hustle and grind and make up for all of that lost time, you are doing a disservice to yourself in your career. And so that is part of the reason why I've taken on so many responsibilities […] because, you know, no offense, but I feel like all of the kids in the game, that are younger than me, are so much further ahead than I am.

These findings converge with and help to explain the findings of Study 1, which indicate that domestic underrepresented students experience less boundary flexibility and more work-life conflict than others. These students, who like all types of students already experience

increased boundary permeability, are also unintentionally limiting the flexibility of their work-life boundaries. They feel familial and societal pressures to overcompensate for their experienced inequities by taking on extra roles and responsibilities. Their impacted schedules are therefore highly inflexible and thereby affect when and where they can attend to their schoolwork. As a result, additional responsibilities such as extracurriculars conflict with their family lives and their academics.

Discussion

This study employed a sequential explanatory mixed-methods design to study the work-life boundaries of undergraduate students during the COVID-19 pandemic. The findings from the quantitative strand complemented the predictions that boundary flexibility predicts less exhaustion, while permeability predicts more exhaustion, and that both relationships are mediated by work-life conflict. However, the prediction that boundary communication would serve as a boundary management strategy to reduce work-life conflict was not supported. But this was likely due to the finding that students rarely engage in boundary communication with their faculty members or teaching assistants. [but that was only one of the three forms of boundary communication]

Furthermore, disaggregating the quantitative data revealed both the overall similarities and the unique differences between domestic underrepresented students, international students, and traditional students in experiences of boundary flexibility, permeability, and work-life conflict. However, the qualitative data did not provide explanations for these findings.

The qualitative data from the follow-up study was used to examine either convergence or divergence between the datasets in order to develop a more nuanced narrative of what students are experiencing and provide explanations. Focus group data confirmed that students across group types all experienced increased boundary permeability, increased work-life conflict, and increased exhaustion, and rarely engaged in boundary communication with faculty or teaching assistants. Additionally, for each hypothesis that was supported in Study 1, convergent focus group data provided possible explanations and nuanced clarification. For example, there was clear convergence between the quantitative findings that boundary permeability was positively related to work-life conflict. However, the quantitative findings alone did not explain why international students experience lower boundary permeability than other student groups, but not any less work-life conflict.

When we examined the focus group data, the student's comments suggested that while international students do, in fact, experience less boundary permeability, it is because they are maintaining inverted sleep schedules and are often sleeping when other individuals in their home are awake, or working when everyone else is asleep. This leads to work-life conflict in that their living situation abroad forces them to engage in unhealthy sleeping habits which conflicts with their ability to stay continuously engaged in their classes. In fact, many reported having to drop classes, which will ultimately impact their overall time to degree.

This study's methodological approach also contributed to the understanding of why students do not engage in boundary communication with their professors or teaching assistants. While the quantitative data helped to flag this issue, it did not provide

explanations. The qualitative data, on the other hand, revealed that students do not feel comfortable sharing personal experiences with faculty or teaching assistants due to perceived power distance (Hofstede, 2011) and lack of perceived proximity (Wilson et al., 2008). Power distance refers to how individuals belonging to a specific culture view power relations between people, while perceived proximity refers to the *perception* of how close or far another person is. In the context of the present study, perceptions of power distance were observed in Chinese students who perceived that professors and teaching assistants are superiors who are not to be bothered with personal problems. Likewise, a lack of perceived proximity was observed in traditional students who did not feel close to their professors or teaching assistants, which led them to engage in very little boundary communication behaviors.

Theoretical Implications

This work extends the boundary management literature by considering the unique needs of a diverse population that has not previously been studied in this context. The extant boundary management literature, and the organizational literature in general, typically relies on samples of knowledge workers. The present study adopts the same theoretical rationales of work such as that of Ashforth et al. (2000) and Clark (2000) and applies it to groups with less organizational infrastructure, less organizational power, and far more intersecting underrepresented identities. As such, the findings of the present research have theoretical implications for research on DEIJ issues by adopting an intersectionality framework and exemplifying that while original boundary theories hold in diverse populations, that intersectionalities produce unique and nuanced experiences that must be considered.

Additionally, this work tests assumptions of the boundaries and borders literature in the context of forced remote work. The circumstances of COVID-19 provide a new understanding of various ways in which remote work can be enacted, particularly, that remote work can sometimes be imposed involuntarily. This work reveals that without proper preparation, training, and infrastructural support, remote work arrangements can be difficult and lead to negative work and well-being outcomes.

Practical Implications

The present findings indicate a need for intervention. For students, best practices to mitigate work-life conflict and its negative consequences may be first, to establish physical boundaries whenever is possible. For those, like many domestic underrepresented students, who may not have the physical arrangements to establish boundaries, striking a balance between flexibility and routine is equally important. To do this, they must re-evaluate what roles and responsibilities are truly necessary to succeed and reduce excess activities in order to ensure some degree of potentially conflict-preventive flexibility in their schedules.

Faculty and teaching assistants should make individual efforts to reduce students' perceived power distance and lack of perceived proximity by inviting students to engage in conversations about their work-life demands. These invitations may include sharing personal anecdotes to develop rapport, increasing communication frequency and interactivity, and reminding students that sharing is encouraged and welcomed. While student disclosure about their work-life demands can help educators accommodate students, awareness of students' work-life demands may also lead educators to adjust their expectations to better attend to their students' needs before students become overwhelmed and exhausted.

University administrators and educators should focus on developing evidence-based interventions for students that teach boundary management strategies while working remotely such as methods to establish physical boundaries, reducing unnecessary extracurricular activities in order to increase flexibility, and engaging in boundary communication with faculty and teaching assistants. Even more so, the present findings indicate a need for specialized interventions for domestic underrepresented students and international students. Because these students face different boundary management challenges than their traditional counterparts, it is only logical that they receive interventions which cater specifically to those issues. This argument contributes to the important conversations currently taking place in higher education about diversity, equity, inclusion, and justice initiatives.

Methodological Implications

This study contributes to two ongoing methodological discussions in the field of Communication: mixed-method approaches to field research and the disaggregation of data. The methodological approach employed in the present research was useful in understanding the relationship between quantitative and qualitative results, but also ensuring that the study findings were grounded in the experiences of the populations studied. This approach helped the researcher collect rich and comprehensive data on diverse college student populations and identify their boundary management needs with confidence.

Additionally, as is made clear by the overall findings of the present study, carefully disaggregating data can increase our understanding about a particular question or issue. By determining a reasonable and feasible scope for disaggregation, we were able to gather both

quantitative and qualitative data that was far more nuanced. In both types of data collected, disaggregated findings highlighted the interplay between multiple social dynamics and power relations, which is frequently cited as a motivation for intersectional studies (Cho et al., 2013). Additionally, during the qualitative data collection process, transparently expressing to participants that we intend to disaggregate the data by their academic identities created a great deal of rapport and open sharing between focus group participants and the researcher. This presented the researcher, who is also an educator, an opportunity to participate in engaged scholarship practices and provide resources to students while also conducting research (Dempsey et al., 2014).

Limitations

In addition to the many limitations of conducting a mixed-methods study under time constraints, this study had several other limitations. First, the sampling methods for both the quantitative and qualitative strand were nonrepresentative. Participants were recruited using convenience and purposive sampling techniques and do not reflect the demographic makeup of the UC population. Moreover, the present findings likely do not represent the most vulnerable students, as they are less likely to volunteer to participate due to lack of time and energy. As such, the challenges discovered in the present study, and perhaps even other challenges that were not discussed much or frequently, are likely understated. Additionally, the present study failed to consider students with disabilities as an underrepresented population, which emerged in the focus group data collection process.

Future Directions

Future work in this area should collaborate with institutional research departments of universities with diverse populations in order to capture students' needs more accurately. Additionally, future research might focus on examining effective ways to engage students in boundary communication behaviors and explore students' strategic responses to work-life interferences and work-life conflict.

Researchers working in this area should also focus on the concept of forced or involuntary remote work and examine how organizations and universities can better prepare for work arrangements such as these in the future. One way might be to focus on the roles of various ICTs in boundary communication and boundary management behaviors.

Conclusion

During the COVID-19 pandemic, college students were abruptly forced into remote work arrangements that altered their work and life demands and impacted their work-life boundaries. Unlike traditional knowledge workers, college students do not receive the necessary training and infrastructural resources to strike a balance between their work and life demands. Additionally, underrepresented student populations who experience a variety of underrepresented intersectionalities and respective complications, are at an even greater disadvantage when attempting to navigate work-life balance.

Taking an explanatory sequential mixed-methods approach to examining the effects of boundary permeability, boundary flexibility, and work-life conflict on work-engagement and exhaustion across a diverse student sample provides us with the breadth and depth needed to understand the support needs of different types of students. With the insights from

this work, researchers and educators can better understand and accommodate the needs of students who are working remotely and be better prepared for instances of forced remote work in the future.

References

Ashforth, B. E., Kreiner, G. E., & Fugate, M. (2000). All in a day's work: Boundaries and micro role transitions. *Academy of Management review*, *25*(3), 472-491. https://doi.org/10.5465/amr.2000.3363315

Bulger, C. A., Matthews, R. A., & Hoffman, M. E. (2007). Work and personal life boundary management: Boundary strength, work/personal life balance, and the segmentation-integration continuum. *Journal of occupational health psychology*, *12*(4), 365. https://doi.org/10.1037/1076-8998.12.4.365

California State University (CSU) Channel Islands. *Student Stakeholder Fall 2020 Feedback Survey* (unpublished).

Clark, S. C. (2000). Work/family border theory: A new theory of work/family balance. *Human relations*, *53*(6), 747-770. https://doi.org/10.1177/0018726700536001

Clark, S. C. (2002). Communicating across the work/home border. *Community, Work & Family*, *5*(1), 23-48. https://doi.org/10.1080/13668800020006802

Cho, S., Crenshaw, K. W., & McCall, L. (2013). Toward a field of intersectionality studies: Theory, applications, and praxis. *Signs: Journal of women in culture and society*, *38*(4), 785-810. https:// doi.org/10.1086/669608

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Dempsey, S. E., & Barge, J. K. (2014). Engaged scholarship and democracy. In L. L. Putnam & D. K. Mumby (Eds.). *The SAGE handbook of organizational communication: Advances in theory, research, and methods* (3rd ed., pp. 665-688). Los Angeles, CA: Sage, Chapter 27.

Dery, K., & MacCormick, J. (2012). Managing mobile technology: The shift from mobility to connectivity. *MIS Quarterly Executive, 11*(4). https://aisel.aisnet.org/misqe/vol11/iss4/3/

DeSanctis, G., & Monge, P. (1999). Introduction to the special issue: Communication processes for virtual organizations. *Organization Science, 10*(6), 693-703. https://doi.org/10.1287/orsc.10.6.693

Ellison, N. B. (2004). *Telework and social change: How technology is reshaping the boundaries between home and work*. Greenwood publishing group.

Gibbs, J. L., Rozaidi, N. A., & Eisenberg, J. (2013). Overcoming the "ideology of openness": Probing the affordances of social media for organizational knowledge sharing. *Journal of Computer-Mediated Communication, 19*(1), 102-120. https://doi.org/10.1111/jcc4.12034

Gibson, C. B., & Cohen, S. G. (Eds.). (2003). *Virtual teams that work: Creating conditions for virtual team effectiveness*. John Wiley & Sons.

Gibson, C. B., & Gibbs, J. L. (2006). Unpacking the concept of virtuality: The effects of geographic dispersion, electronic dependence, dynamic structure, and national

diversity on team innovation. *Administrative Science Quarterly*, *51*(3), 451-495. https://doi.org/10.2189/asqu.51.3.451

Global Strategies Group (2020). *Higher Ed Survey Highlights the Academic, Financial, and Emotional Toll of Coronavirus on Students.* https://s3-us-east-2.amazonaws.com/edtrustmain/wp-content/uploads/sites/3/2017/11/27120859/Higher-Ed-Nationwide-CA-Memo-F05.27.20.pdf

Gonzales, A. L., McCrory Calarco, J., & Lynch, T. (2020). Technology problems and student achievement gaps: A validation and extension of the technology maintenance construct. *Communication Research*, *47*(5), 750-770. https://doi-org/10.1177/0093650218796366

Hall, D. T., & Richter, J. (1988). Balancing work life and home life: What can organizations do to help?. *Academy of Management Perspectives*, *2*(3), 213-223. https://doi.org/10.5465/ame.1988.4277258

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online readings in psychology and culture*, *2*(1), 2307-0919. http://scholarworks.gvsu.edu/orpc/vol2/iss1/8

Kossek, E. E., Lautsch, B. A., & Eaton, S. C. (2006). Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work–family

effectiveness. *Journal of Vocational Behavior*, *68*(2), 347-367. https://doi.org/10.1016/j.jvb.2005.07.002

Kossek, E. E., Ruderman, M. N., Braddy, P. W., & Hannum, K. M. (2012). Work–nonwork boundary management profiles: A person-centered approach. *Journal of Vocational Behavior*, *81*(1), 112-128. https://doi.org/10.1016/j.jvb.2012.04.003

Leonardi, P. M., Treem, J. W., & Jackson, M. H. (2010). The connectivity paradox: Using technology to both decrease and increase perceptions of distance in distributed work arrangements. *Journal of Applied Communication Research*, *38*(1), 85-105. https://doi.org/10.1080/00909880903483599

Lim, H., Arawjo, I., Xie, Y., Khojasteh, N., & Fussell, S. R. (2017). Distraction or life saver? The role of technology in undergraduate students' boundary management strategies. *Proceedings of the ACM on Human-Computer Interaction*, *1*(CSCW), 1-18. https://doi.org/10.1145/3134703

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*(2), 99-113. https://doi.org/10.1002/job.4030020205

Matthews, R. A., & Barnes-Farrell, J. L. (2010). Development and initial evaluation of an enhanced measure of boundary flexibility for the work and family domains. *Journal of Occupational Health Psychology*, *15*(3), 330. https://doi.org/10.1037/a0019302

Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work–family conflict and family–work conflict scales. *Journal of Applied Psychology*, *81*(4), 400. https://doi.org/10.1037/0021-9010.81.4.400

Nguyen, T. H., & Nguyen, B. M. D. (2018). Is the "first-generation student" term useful for understanding inequality? The role of intersectionality in illuminating the implications of an accepted—yet unchallenged—term. *Review of Research in Education*, *42*(1), 146-176. https://doi.org/10.3102/0091732X18759280

Pandemic Pedagogy Facebook Group (3 December 2020) https://www.facebook.com/groups/2528669267346197

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, *3*(1), 71-92. https://doi.org/10.1023/A:1015630930326

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research techniques*. Thousand Oaks, CA: Sage publications.

Ter Hoeven, C. L., van Zoonen, W., & Fonner, K. L. (2016). The practical paradox of technology: The influence of communication technology use on employee burnout and engagement. *Communication Monographs*, *83*(2), 239-263. https://doi.org/10.1080/03637751.2015.1133920

Tracy, S. J. (2019). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. John Wiley & Sons.

U.S. Department of Education (2018). *Hispanic-Serving Institutions (HSIs)*. https://sites.ed.gov/hispanic-initiative/hispanic-serving-institutions-hsis/

University of California, Santa Barbara Departments of Undergraduate Education, Institutional Research, and Student Affairs (May, 2020). *UCSB Spring 2020 Remote Learning Survey.* Results presented via Zoom at the Remote Learning Survey results webinar. Santa Barbara, CA.

Van Dorn, A., Cooney, R. E., & Sabin, M. L. (2020). COVID-19 exacerbating inequalities in the US. *Lancet (London, England)*, *395*(10232), 1243. https://doi.org/10.1016/S0140-6736(20)30893-X

van Zoonen, W., Sivunen, A., & Rice, R. E. (2020). Boundary communication: How smartphone use after hours is associated with work-life conflict and organizational identification. *Journal of Applied Communication Research*, *48*(3), 372-392. https://doi.org/10.1080/00909882.2020.1755050

Wilson, J. M., Boyer O'Leary, M., Metiu, A., & Jett, Q. R. (2008). Perceived proximity in virtual work: Explaining the paradox of far-but-close. *Organization Studies*, *29*(7), 979-1002. https://doi.org /10.1177/0170840607083105

Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race, Ethnicity, and Education*, *8*(1), 69-91. https://doi.org/10.1080/1361332052000341006

Table 1

Variable	*M*	*SD*	1	2	3	4	5
1. Underrepresented Intersectionality	0.83	1.01					
2. Boundary Flexibility	3.44	0.66	-.131*				
3. Boundary Permeability	3.88	0.69	-.111*	.044			
4. Exhaustion	3.47	0.8	.076	-.268**	.260**		
5. Work-Life Conflict	3.06	0.92	.179**	-.537**	.226**	.623**	
6. Boundary Communication	2.3	0.77	-.178**	-0.016	.165**	.012	.099

Table 2

Focus Group Overview

Group Type	Participant ID	Gender	Low-SES?	First Generation?	International?	Ethnic Minority?
Focus Group 1: Underrepresented Students	1	Female	Yes	Yes		
	2	Male	Yes	Yes		Yes
	3	Female	Yes	Yes		Yes
	4	Male		Yes		
	5	Female		Yes		
Focus Group 2: Traditional Students	6	Female				
	7	Female				
	8	Female				
	9	Female				
	10	Female				
Focus Group 3: International Students	11	Female		Yes	Yes	
	12	Female		Yes	Yes	
	13	Female			Yes	
	14	Male		Yes	Yes	
	15	Male			Yes	
Focus Group 4: International Students	16	Male			Yes	
	17	Female			Yes	
	18	Male		Yes	Yes	
Focus Group 5: Underrepresented Students	19	Non-Binary	Yes	Yes		
	20	Female	Yes	Yes		Yes
	21	Female		Yes		Yes
	22	Male				Yes
	23	Female	Yes	Yes		
	24	Male	Yes	Yes		Yes
Focus Group 6: Traditional Students	25	Female				
	26	Female				
	27	Female				
	28	Male				
	29	Female				

Appendix A

Boundary Management During COVID-19 Survey Instrument

Boundary Permeability

Please rate on a scale of 1 to 5 how frequently the following occurrences take place on a typical week, where 1 is never and 5 is always.

1. I receive schoolwork-related calls while I am at home.
2. I have schoolwork-related items at my home.
3. I think about schoolwork-related concerns while I am at home.
4. I hear from people related to my schoolwork while I am at home.
5. I stop in the middle of my home activities to address a schoolwork concern.
6. I take care of schoolwork-related business while I am at home.

Boundary Flexibility

Please rate on a scale of 1 to 5 how much you agree with the following statements:

1. Because of my family and personal responsibilities, I cannot change my school schedule (for example, tending to schoolwork at an earlier or later time than normal).
2. If the need arose, I could complete my schoolwork late in the evening without affecting my family and personal responsibilities.
3. My family and personal life responsibilities would not prevent me from doing schoolwork an extra day in order to meet my academic responsibilities.
4. My family and personal life would not prevent me from starting my schoolwork earlier in the day that normal, if the need arose.
5. From a family and personal life standpoint, there is no reason why I cannot rearrange my schedule to meet the demands of my schoolwork.

Work-Life Conflict

Please rate on a scale of 1 to 5 how much you agree with the following statements:

1. The demands of my schoolwork interfere with my home and family life
2. The amount of time my schoolwork takes up makes it difficult to fulfill family responsibilities.
3. Things I want to do at home do not get done because of the demands my schoolwork puts on me.
4. My schoolwork produces strain that makes it difficult to fulfill family duties.
5. Due to schoolwork-related duties, I have to make changes to my plans for family activities.
6. The demands of my family or spouse/partner interfere with schoolwork-related activities.
7. I have to put off doing things at school because of demands on my time at home.
8. Things I want to do at school don't get done because of the demands of my family or spouse/partner.

9. My home life interferes with my responsibilities at school such as accomplishing daily tasks.
10. Family-related strain interferes with my ability to perform school-related duties.

Exhaustion

Please rate on a scale of 1 to 5 how much you agree with the following statements, where 1 is not at all and 5 is a great deal.

1. I feel emotionally drained from my schoolwork.
2. I feel used up at the end of the school day.
3. I feel fatigued when I get up in the morning and have to face another day on the job.
4. Working with people all day is really a strain for me.
5. I feel burned out from my schoolwork.
6. I feel frustrated by my schoolwork.
7. I feel I'm working too hard on my schoolwork.
8. Working with people directly puts too much stress on me.
9. I feel like I'm at the end of my rope.

Boundary Communication with TA/Faculty

Please rate on a scale of 1 to 5 how frequently the following occurrences take place on a typical week, where 1 is never and 5 is always.

1. I discuss my family obligations with my TAs, professors and/or administrators.
2. I discuss demands on me at home with my TAs, professors and/or administrators.
3. My TAs, professors and/or administrators understand my family demands

Boundary Communication with Family

Please rate on a scale of 1 to 5 how frequently the following occurrences take place on a typical week, where 1 is never and 5 is always.

1. I discuss my schoolwork obligations with my family.
2. I discuss demands on me at school with my family.
3. I share unpleasant things that happened at school with my family.
4. I talk with my family about what kind of day I had at school.

Demographics

What year were you born? (please enter numbers only. e.g., 2000).

_____

What is your year at the University?

- 1st (1)
- 2nd (2)
- 3rd (3)
- 4th (4)
- Other (5)

What is your current gender identity?

- Male (1)
- Female (2)
- Trans male/ Trans man (3)
- Trans female / Trans woman (4)
- Genderqueer/ Gender non-conforming (5)
- Different (please specify): (6)

  _____

What is the highest education obtained by your mother or guardian?

1) High School Diploma or less (1)
2) Some College (2)
- Bachelor's Degree (3)
- Some Graduate School (4)
- Graduate Degree (PhD/JD/MD) (5)
- None of the above (6)
- Not applicable (7)

What is the highest education obtained by your father or guardian? If you were raised by one guardian, please select "not applicable".

- High School Diploma or less (1)
- Some College (2)
- Bachelor's Degree (3)
- Some Graduate School (4)
- Graduate Degree (PhD/JD/MD) (5)
- None of the above (6)
- Not applicable (7)

What is your family's approximate annual income?

- Less than $20,000 per year (1)
- $20,001 - $40,000 per year (2)
- $40,001 - $60,000 per year (3)
- $60,001 - $80,000 per year (4)
- $80,001 - $100,000 per year (5)
- $100,001 - $120,000 per year (6)
- More than $120,000 (7)

What is your ethnicity?

- White/Caucasian (1)

- Hispanic/LatinX (2)
- African American (3)
- Asian/Pacific Islander (4)
- Native American (6)
- Two or more races (7)
- Other: (8) _____

Are you a first-generation student (neither parents completed college or did not attend college at all)?

- Yes (1)
- No (0)
- I don't know (3)

Do you have children?

- Yes (1)
- No (0)

- Are you an international student?
- Yes (1)
- No (0)

Where are you currently located?

- In California (1)
- In the United States, but outside of California (2)
- Outside of the United States (3)

Appendix B

Focus Group Protocol

Researcher introduces themselves

Participants take turns introducing themselves to the group (optional)

1. Name
2. Pronouns
3. Year (Freshman, Sophomore, Junior, Senior, other)
4. Location/Living Arrangement

Focus Group Questions:

1. How have you fared during the pandemic? How are you in general?
2. How has school been going?
    a. What are some challenges you have faced with school during the pandemic?
3. How has your home life been?
    a. What are some challenges you have faced at home during the pandemic?
4. How has your day-to-day schedule changed since you've started learning remotely?
        i. What is an average day like?
        ii. How much control do you have over your schedule?
        iii. What are some things that make your schedule more or less flexible?
            1. E.g. asynchronous classes might provide more flexibility
            2. E.g. A rigid work schedule might result in less flexibility
5. How has the pandemic impacted the quality of your work-life balance?
    a. Does your schoolwork ever interfere with your home or family life? How?
    b. Does your home or family life every interfere with your schoolwork? How?
    c. How has technology effected your work-life balance?
        i. Does it help? Does it make it worse? How?
    d. What kinds of things do you do in attempt to achieve work-life balance?
6. If you are experiencing conflict in your life, or are feeling exhausted by balancing school and life, who might you speak to about it? Why?
    a. What would you say?
    b. Would you talk to your family members?
        i. Which family member and why? Why not?
    c. Would you talk to your professors or your TAs?
        i. Which one and why? Why not?
7. What do you think would improve your work-life balance?
    a. Are there support needs that you currently have which are not being met?
    b. Can your professors or TAs do anything to better support you?
8. Looking back at this year, and knowing what you do now about remote learning, what things would you have done differently?