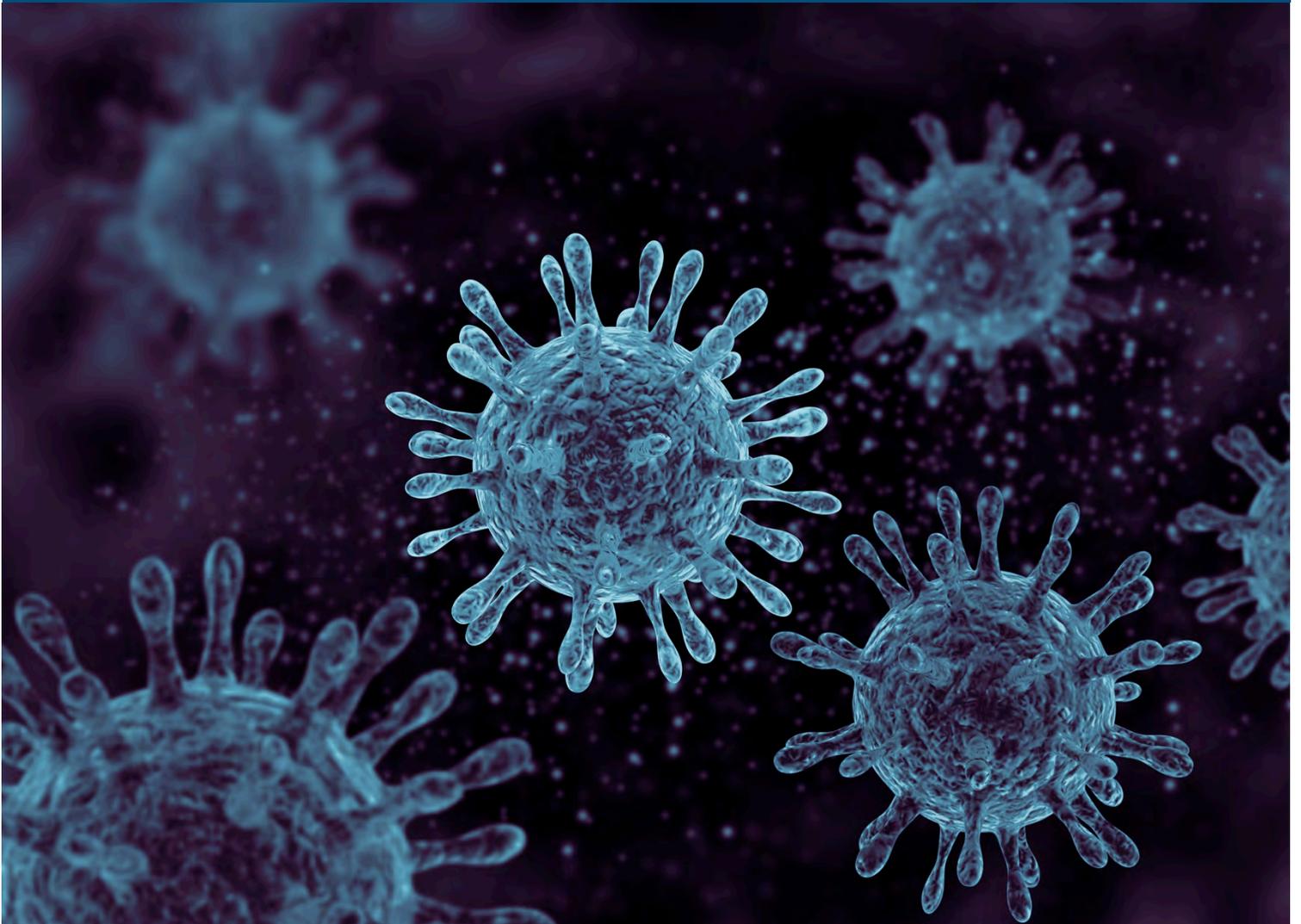


Impact of COVID-19 on Actuarial Careers: Highlights Report

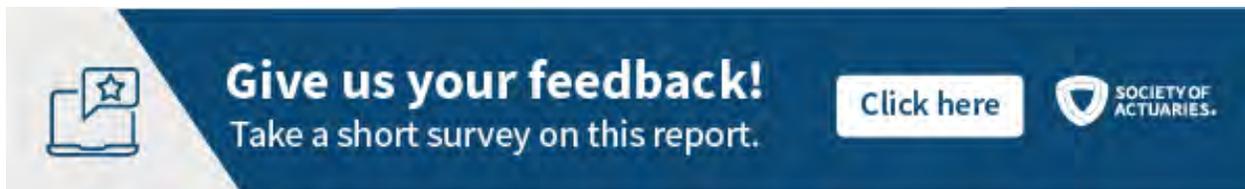


Impact of COVID-19 on Actuarial Careers

Highlights Report

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Executive Summary

COVID-19 brought changes that disrupted virtually everyone’s personal and professional lives. In April 2021, the Society of Actuaries (SOA) surveyed 26,101 members and candidates to understand the pandemic’s impact on actuarial careers. Approximately 7% (1,912) responded and included demographic information.¹ In addition, the SOA analyzed actuarial exam progress at an aggregate level. Here are highlights of the findings.

Employment Status Changes

- Since January 2020, 8% of respondents have changed employment status. Employment status changes include returning to the workforce, changing jobs, retiring, formally reducing or increasing one’s working hours, voluntarily leaving employment, being laid off or terminated.
- The proportions of respondents who changed employment status varied little by gender, with one exception: 23% of women whose household includes adults with special care needs changed employment status, compared to 13% of men in such households.
- 34% of all employment changes were reported to have been made for reasons related to COVID-19. However, 43% of women’s employment changes, versus 30% of men’s changes, were for a reason related to COVID-19. But 58% of respondents who made employment changes and live with pre-school-aged children cited COVID-19 reasons.

Working From Home

- Working from home was a significant change for most actuaries. While some are looking forward to returning to work in the office, few would like to return to working in the office most or all of the time. After COVID-19 restrictions are fully lifted, approximately 65% of full-time respondents would prefer to work from home at least 3 days per week: 28% would prefer to work from home three days per week, 23% would like to work from home every day, and 14% would prefer to work from home 4 days per week.
- In general, respondents who identify as women have a slight preference to work from home more frequently than do respondents who identify as men.

Professional Effectiveness

- For most working conditions during the pandemic, more respondents reported a neutral impact on their professional effectiveness than either a beneficial or detrimental impact.
- However, nearly three-quarters (74%) of respondents found the flexibility associated with working remotely to be beneficial to their professional effectiveness, and another 23% found it to be neutral.
- Networking and social interactions at work have generally been less effective during the pandemic.

Actuarial Exams

- During 2020, significantly fewer candidates wrote SOA actuarial exams than in recent previous years, but they seemed to be better prepared because a greater percentage of candidates passed.
- The total number of passing candidates in 2020 was 14% lower than in 2019, but it exceeded the number of candidates who passed in each year 2015 through 2017.



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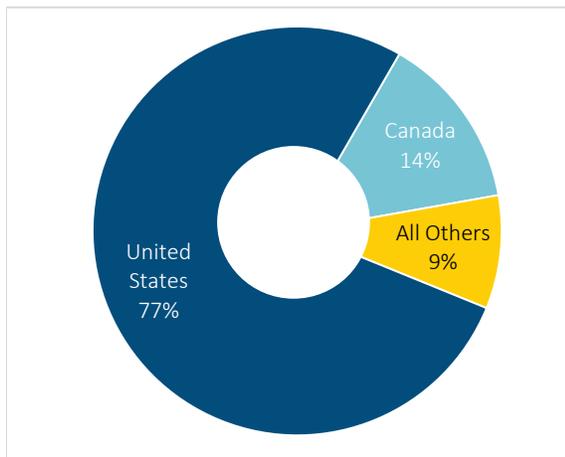

¹ The number of respondents who provided demographic information includes respondents who selected “prefer not to answer” in response to one or more demographic questions.

Introduction and Summary of Respondents

COVID-19 and the accompanying restrictions have disrupted the personal and professional lives of virtually everyone. To understand the impact on the professional lives of actuaries and aspiring actuaries, the Society of Actuaries (SOA) surveyed 26,101 members and candidates in April 2021, and 2,128 people (8%) submitted the survey. Only 1,192 respondents (90% of all respondents) provided demographic information. Unless indicated otherwise, this study refers to “all” respondents as the 1,192 respondents who shared demographic information, including those who checked the boxes marked “Prefer not to answer.”

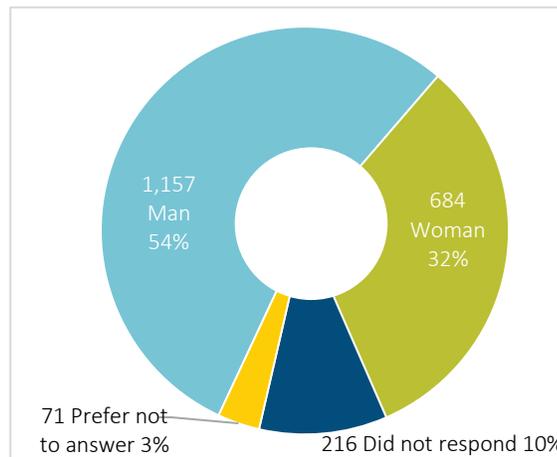
Most respondents live in North America: 77% in the U.S. and 14% in Canada (Figure 1). By gender, 54% of respondents identified as men, 32% identified as women, 3% preferred not to answer and 10% did not respond to the question (Figure 2).

Figure 1
RESPONDENTS BY COUNTRY



N=1,912

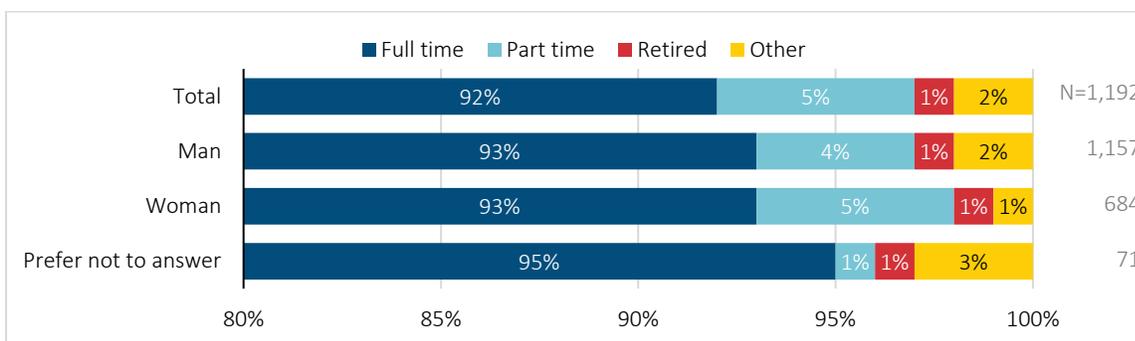
Figure 2
RESPONDENTS BY GENDER



N=1,912

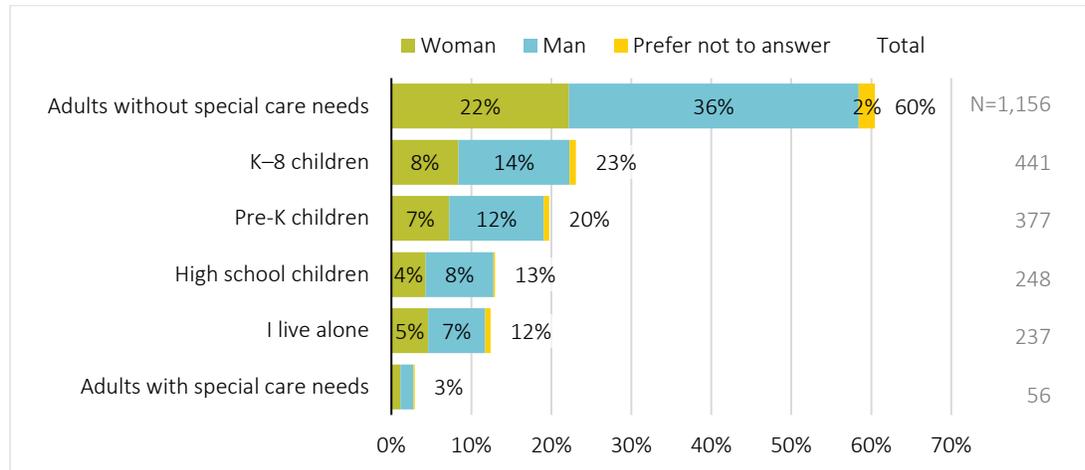
Overall, Figure 3 shows that 92% of respondents are employed as actuaries full time and 5% of respondents work as actuaries part time. Respondents who identified as women are slightly more likely than those who identified as men to be employed as actuaries part time—5% of women compared to 4% of men.

Figure 3
RESPONDENTS BY EMPLOYMENT STATUS AND GENDER



Household composition plays a role in how the working conditions of the pandemic are experienced. Figure 4 summarizes household characteristics of all respondents for reference against subsequent analyses.

Figure 4
RESPONDENTS' HOUSEHOLD CHARACTERISTICS



N=1,912. Because more than one household characteristic may apply to a single respondent, percentages may add to greater than 100%.

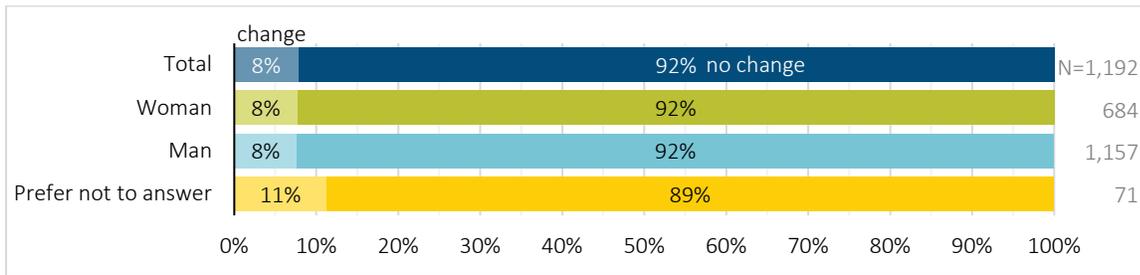
Employment Status Changes

As explored in the 2020 SOA series of briefs on the impact of COVID-19, public policy and consumer reactions to the COVID-19 pandemic led to significant job loss.² Numerous sources have reported that labor force participation of parents with younger children, especially women, has suffered more than that of other people in the U.S. and Canada.³ However, the same proportion of actuaries who changed employment status since January 2020 is the same for those who identified as women as those who identify as men (Figure 5).

² Hall, R. Dale, et al. 2020 various dates March 20 through June 12. "Society of Actuaries Research Brief: Impact of COVID-19." Society of Actuaries. <https://www.soa.org/resources/research-reports/2020/impact-coronavirus/>. Schilling, Lisa A. 2020, July 31 and September 30. "COVID-19 Economic and asset Impact Update." Society of Actuaries. <https://www.soa.org/resources/research-reports/2020/impact-coronavirus/>.

³ Riley, Katherine and Stephanie Stamm. April 27, 2021. "Nearly 1.5 Million Mothers Are Still Missing From the Workforce." *The Wall Street Journal*. <https://www.wsj.com/articles/nearly-1-5-million-mothers-are-still-missing-from-the-workforce-11619472229>. Leonhardt, David. May 3, 2021. "The Morning Newsletter." New York Times. <https://www.nytimes.com/2021/05/03/briefing/schools-reopening-working-mothers.html>. Bauer, Lauren. May 6, 2021. "Mothers Are Being Left Behind in the Economic Recovery from COVID-19." Brookings. <https://www.brookings.edu/blog/up-front/2021/05/06/mothers-are-being-left-behind-in-the-economic-recovery-from-covid-19/>. Higginbotham, Eve and Maria Lund Dahlberg. 2021. "The Impact of COVID-19 on the Careers of Women in Academic, Sciences, Engineering and Medicine." The National Academy of Sciences, Engineering and Medicine. *The Impact of COVID-19 on the Careers of Women in Academic Sciences, Engineering, and Medicine | The National Academies Press (nap.edu)*. Wheatly, Gillian. 2021, March 4. "Pandemic Job Losses Threaten to Leave Women Behind Permanently, RBC Warns." CBC News. <https://www.cbc.ca/news/business/longterm-female-unemployment-1.5935882>. Desjardins, Dawn and Carrie Freestone. 2020, November 19. "Canadian Women Continue to Exit the Labour Force." RBC Thought Leadership. Royal Bank of Canada. <https://thoughtleadership.rbc.com/canadian-women-continue-to-exit-the-labour-force/>.

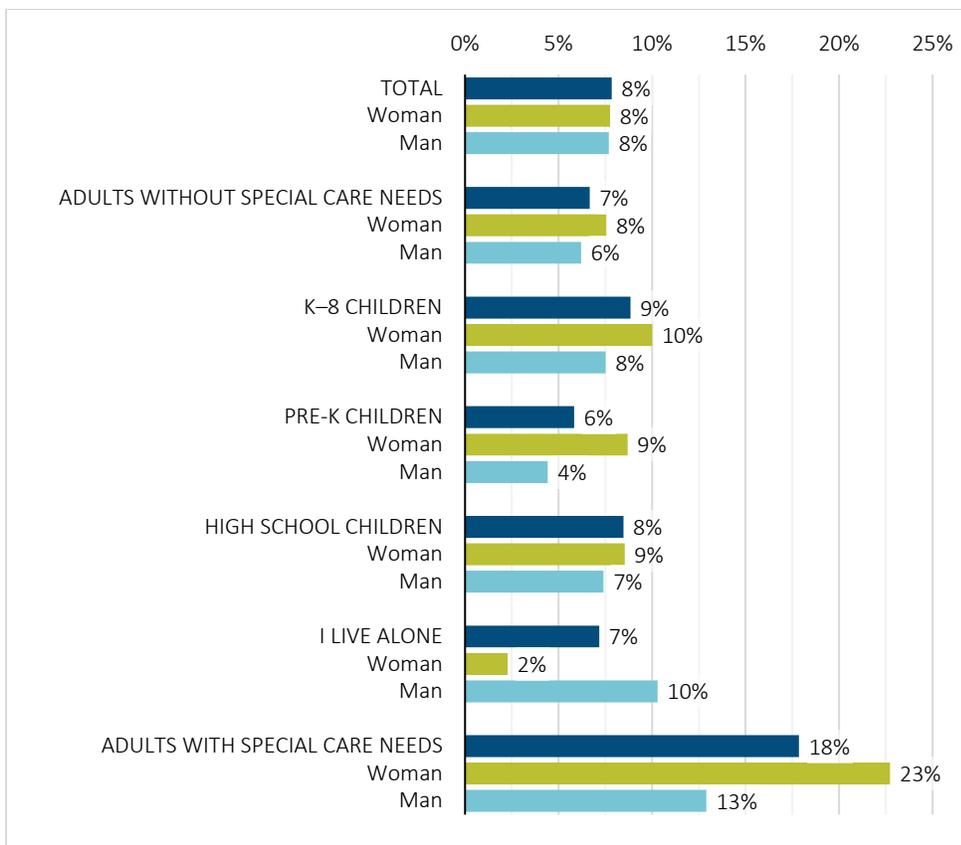
Figure 5
PROPORTIONS OF EMPLOYMENT STATUS CHANGES SINCE JANUARY 2020, BY GENDER



Includes voluntary and involuntary employment status changes. Respondents who preferred not to answer gender identification are not shown by household characteristic because N<10 for most household characteristics, but they are included in the total for each household characteristic.

When considering the household characteristics of actuaries who did or did not change employment status since the start of the COVID-19 crisis (Figure 6), one household characteristic stands out. While 8% of all respondents changed employment status, 18% of those whose household includes adults with special care needs changed employment status: 23% of women and 13% of men.

Figure 6
PERCENTAGE OF ACTUARIES WHO CHANGED EMPLOYMENT STATUS BY HOUSEHOLD COMPOSITION

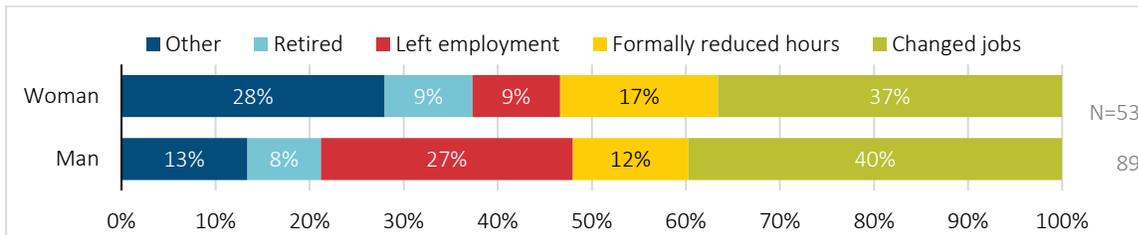


Total N=1,912, Total Woman=684, Total Man=1,157, Total Prefer Not to Answer=71

While the total proportions of respondents who changed employment status since January 2020 generally did not vary much by gender, how their employment status changed did vary by gender (Figure 7). Respondents who

identify as men were much more likely than those who identify as women to have left employment (27% to 9%, respectively). And respondents who identify as women were more likely than those who identify as men to formally reduce their hours (17% compared to 12%) and much more likely to change their employment in ways other than the choices offered (28% compared to 13%).

Figure 7
TYPES OF EMPLOYMENT STATUS CHANGES BY GENDER



N=150. Results for persons who formally increased hours are included with “other” because N<10. Results for persons who prefer not to answer a gender identity are not shown because N<10.

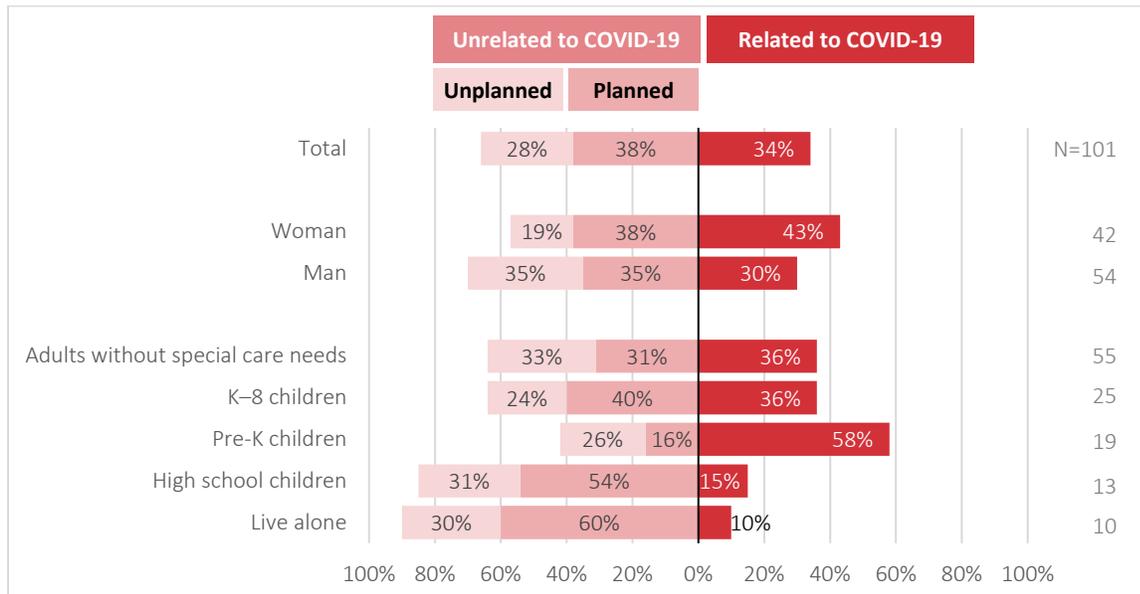
Since January 2020, about one-third (34%) of reported employment status changes occurred for reasons related to COVID-19 (Figure 8). Women were more likely to have made the change for reasons related to COVID-19 (43%) than were men (30%). Household composition also appears to have played a significant role in whether COVID-19 prompted employment status changes. Of the respondents who changed employment status since January 2020, 34% of all changes were for reasons related to COVID-19. However, the proportions who cited COVID-19 reasons for their change varies significantly by household composition:

- 58% of those who live with pre-school-aged children and
- 36% of those in households with children in grades K–8, compared to
- 15% of those living with high-school-aged children and
- 10% of those who live alone.

Parents living with children younger than high school age were much more likely to have formally reduced their hours or left employment for reasons related to COVID-19 than persons living in households without children younger than high school age. All of the actuaries who formally reduced their hours since January 2020 and who live with pre-school-aged children did so for reasons related to COVID-19.

Analysis of employment status changes by gender is not shown because many employment status change categories for persons identifying as women and some categories for persons identifying as men include fewer than 10 respondents. Similarly, employment status changes by race and ethnicity are not shown because only white and Asian gender or job change categories include at least 10 respondents.

Figure 8
PROPORTION OF EMPLOYMENT STATUS CHANGES RELATED TO COVID-19



Respondents who preferred not to answer a gender identity are not shown as a gender category because N<10, but they are included in the household and total figures. Similarly, respondents who live in a household that includes an adult with special care needs are not shown as a household category because N<10, but they are included in the gender and total figures.

Working From Home

Before the pandemic, 60% of respondents who were working full time as actuaries typically worked in the office every day (Figure 9). Of the respondents who identified as men, 63% generally did not work from home, compared to 56% of respondents who identified as women and 46% of respondents who preferred not to answer a gender identity. About 20% of actuaries worked from home one day a week before the pandemic, and roughly 10% of actuaries typically worked from home every day.

Policies in response to the COVID-19 pandemic dramatically changed where actuaries work, with 87% of actuaries working from home every day. A few actuaries are eager to return to the office every day, but most actuaries would prefer to work from home some—if not all—of the time once offices are ready to be fully open to workers. In general, respondents who identify as women or who would prefer not to answer a gender identity would prefer to work from home more frequently than would respondents who identify as men.

After COVID-19 restrictions have been fully lifted, 65% of full-time respondents would prefer to work from home at least 3 days per week:

- 28% would prefer to work from home three days per week
- 23% would like to work from home every day
- 14% would prefer to work from home 4 days per week

In general, respondents who identify as women have a slight preference to work from home more frequently than do respondents who identify as men.

Household composition has a limited impact on the preferred frequency of working at home after COVID-19 is contained. Full-time actuaries who live with an adult who has special care needs have a slight but clear preference to work from home more frequently than other full-time actuaries (Figure 10).

Figure 9
FULL TIME ACTUARIES BY GENDER: NUMBER OF DAYS WORKING FROM HOME

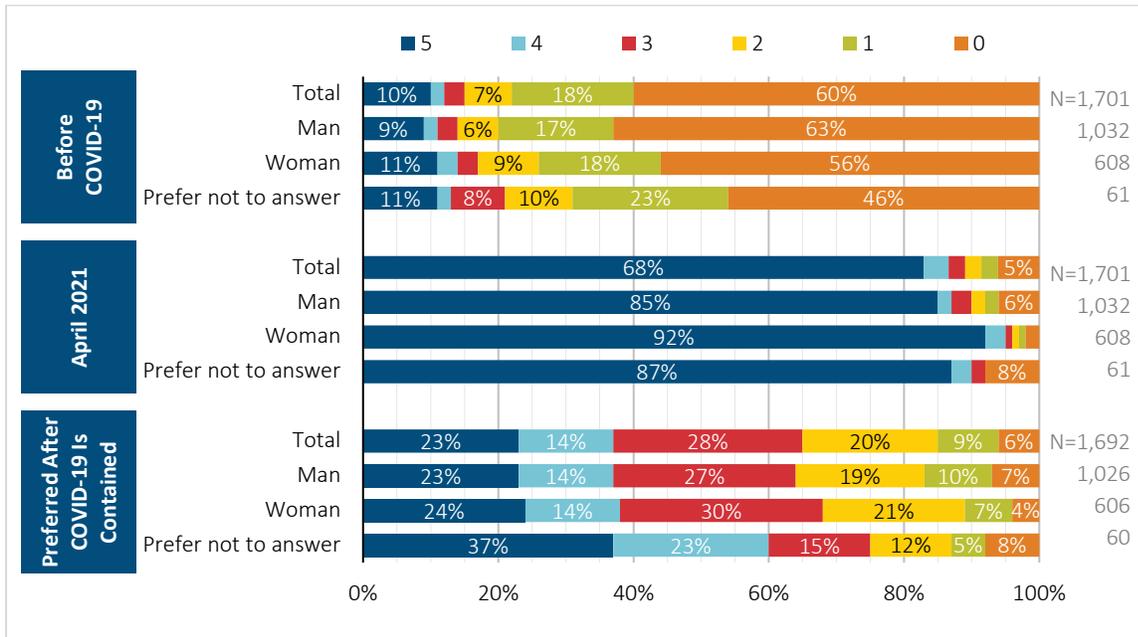
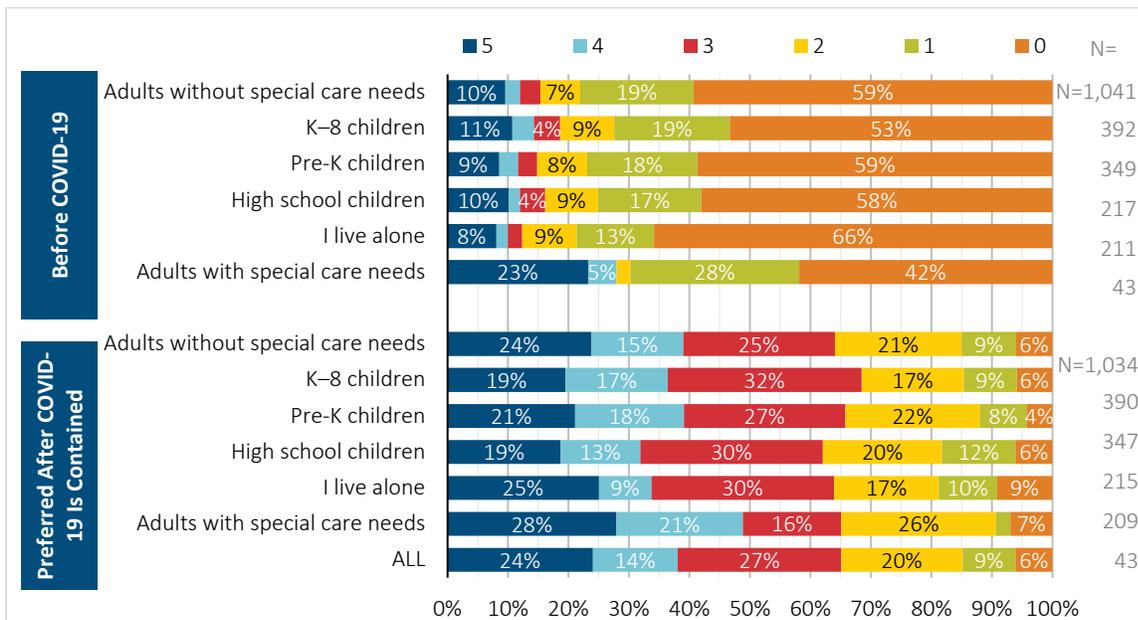


Figure 10
FULL-TIME ACTUARIES BY HOUSEHOLD: NUMBER OF DAYS WORKING FROM HOME



Because more than one household characteristic may apply to a single respondent, the sum of the number of respondents in each household characteristic may exceed the total number of respondents.

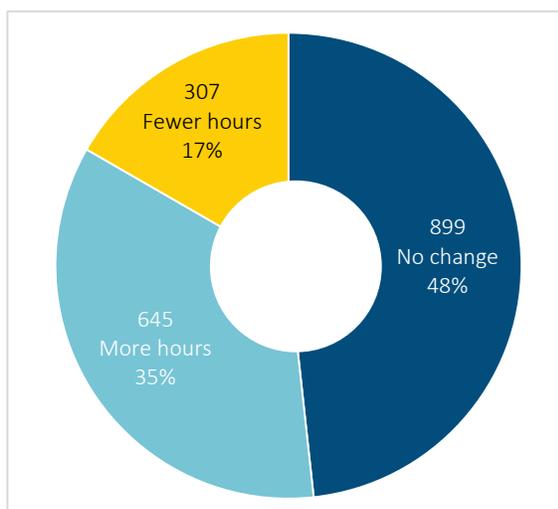
Work Load

In addition to changing where actuaries work, the pandemic brought challenges that affected the amount of time that actuaries spend working. Roughly half of respondents (48%) indicated that the amount of time spent working, including time spent commuting, has been about the same during the pandemic as it was before the pandemic (Figure 11), suggesting that their time that had been spent commuting was replaced by time spent working.

For many actuaries, additional work accompanied the pandemic—35% percent of respondents reported that they were working more during COVID-19 than before the pandemic. Nearly three-quarters of these respondents indicated their work hours had increased because they had more work to do, and about one-quarter of them indicated that tasks take longer to complete than they did before the pandemic.

On the flip side, nearly 1 out of 6 respondents reported that they spend less time working during the pandemic than before it, primarily because of the reduced amount of commuting time.

Figure 11
CHANGE IN NUMBER OF WORK HOURS,
INCLUDING COMMUTE



N=1,851

REASONS FOR INCREASED HOURS

More work responsibilities	73%
Work responsibilities take longer to complete than they did before	27%
More distractions	22%
Find it difficult to concentrate for a long amount of time at home	16%
Technical issues (e.g., internet connectivity issues, etc.)	15%
Blurred or no boundaries between work and home	10%
Other	9%
No dedicated workspace	8%

Because respondents may have selected more than one reason, percentages add to greater than 100%.

REASONS FOR DECREASED HOURS

Less time commuting	83%
More personal responsibilities	15%
Fewer work responsibilities or projects	10%
My work responsibilities take less time than they did before COVID-19	8%
Other	6%

Because respondents may have selected more than one reason, percentages add to greater than 100%.

Professional Effectiveness

Overall, actuaries have found some aspects of COVID-19 working conditions to be beneficial to their professional effectiveness and other aspects to be detrimental. However, for most conditions, the most common response was that the condition had neither a positive nor a negative impact on their professional effectiveness (Table 1).

Flexibility in working hours was reported to be the most beneficial condition, with 74% of respondents choosing somewhat more or much more effective. The aspects of COVID-19 working conditions that suffered the most were

social interactions at work and networking, for which 81% and 74%, respectively, of respondents ranked as somewhat less or much less effective.

Table 1

RESPONSES TO IMPACT OF COVID-19 WORKING CONDITIONS ON PROFESSIONAL EFFECTIVENESS

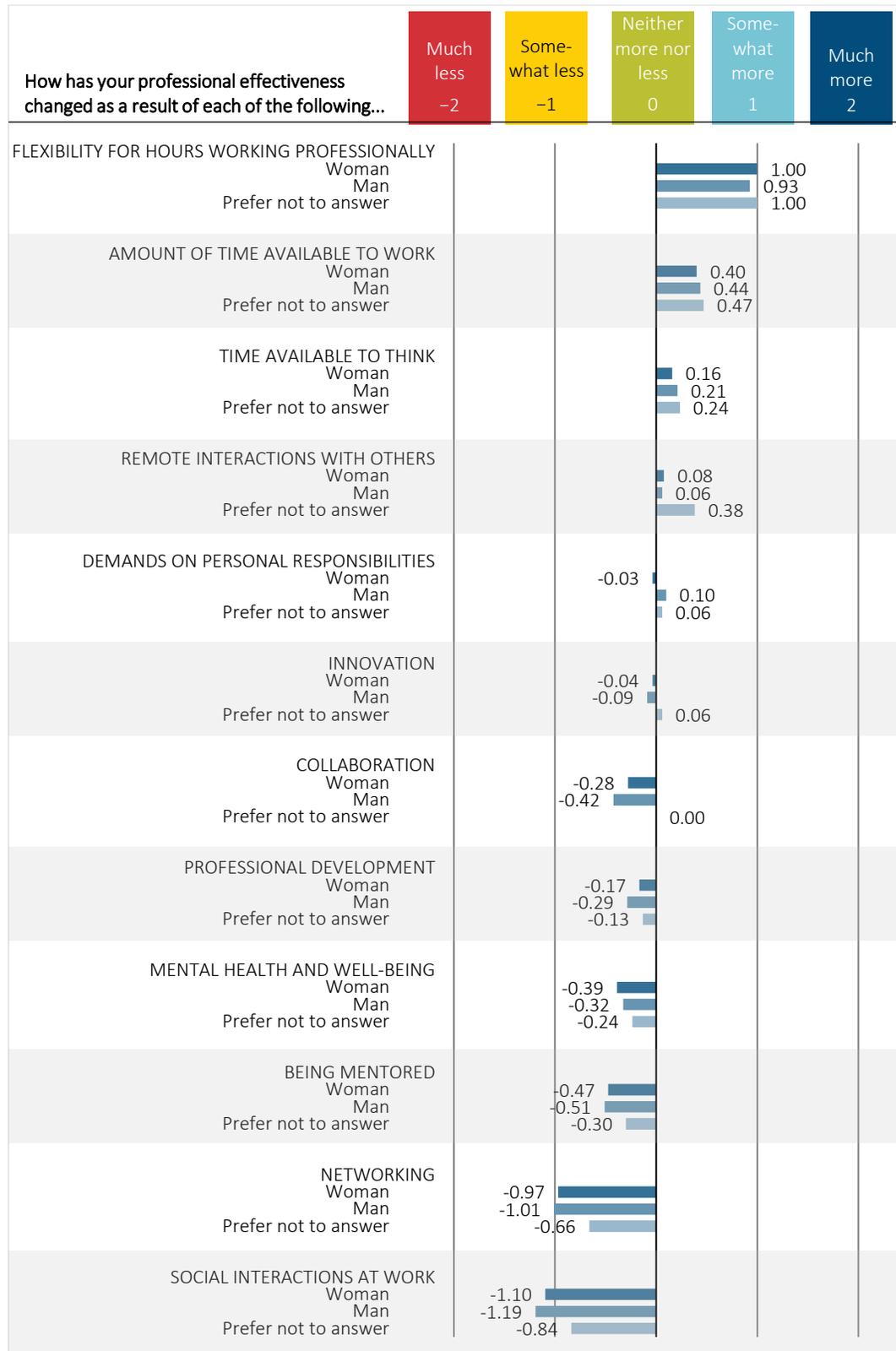
Condition	Much less effective	Some-what less effective	Neither more nor less effective	Some-what more effective	Much more effective
Flexibility for hours working professionally	1%	3%	23%	48%	25%
Amount of time available to work professionally	1%	12%	41%	34%	12%
Time available to think	4%	17%	44%	26%	9%
Remote interactions with others	10%	27%	23%	26%	14%
Demands on personal responsibilities	4%	20%	50%	18%	8%
Innovation	4%	20%	58%	15%	3%
Collaboration	6%	40%	40%	12%	2%
Professional development	6%	29%	51%	11%	3%
Mental health and well-being	12%	35%	36%	11%	6%
Being mentored	10%	34%	51%	4%	1%
Networking	30%	44%	20%	5%	1%
Social interactions at work	38%	43%	16%	2%	1%

N=1,820

The impact of most aspects of COVID-19 working conditions varies little by respondents who indicated a gender identity, with a few exceptions. Figure 12 shows the average reported impact on professional effectiveness. When considering demands on their personal responsibilities, women reported their professional effectiveness as slightly hampered, on average, while men reported it as slightly improved, on average. Both men and women have found, on average, **collaboration** and **mental health and well-being** to be slightly less effective during COVID-19 working conditions. But men indicated a more significant detrimental effect on **collaboration** than did women, while women indicated that **mental health and well-being** had a more significant detrimental effect on their professional effectiveness than did men. Concerning **social interactions at work**, men also experienced a more detrimental effect, on average, than did women.

In addition, some differences stand out between persons who indicated a gender identity and those who preferred not to answer a gender identity. Overall, actuaries have found **remote interactions** to very slightly improve their professional effectiveness, and actuaries who preferred not to answer their gender identity indicated greater improvement, on average, to their professional effectiveness than those who responded as identifying as a man or a woman. Actuaries found **networking** to be overall significantly less effective during COVID-19 working conditions, but persons who preferred not to answer their gender identity experienced less detrimental impact on average than persons who provided their gender identity.

Figure 12
AVERAGE IMPACT OF COVID-19 WORKING CONDITIONS ON PROFESSIONAL EFFECTIVENESS



Man N=1,101; Woman N=643; Prefer not to answer N=67; Non-binary/other N=0.

Exam Progress and Effectiveness

Exam Progress

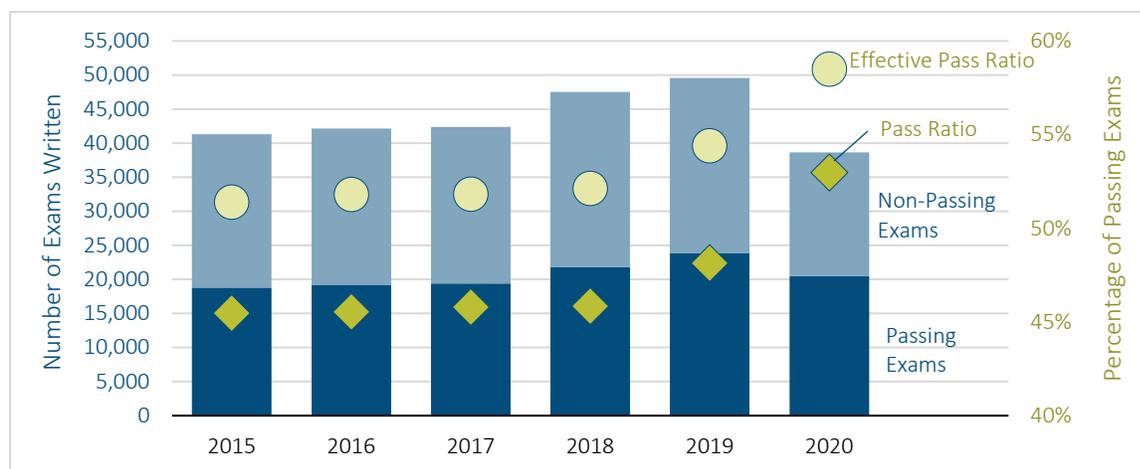
In the years leading up to the COVID-19 pandemic, the number of candidates writing exams had been steadily increasing from approximately 41,300 in 2015 to approximately 49,600 in 2019 (Figure 13). Because of policies and restrictions related to COVID-19, the SOA postponed spring 2020 exams until July and allowed registered candidates to cancel their registration with a full refund up to the day of their exam. In 2020, approximately 38,600 candidates wrote exams—22% fewer than in 2019 and 7% fewer than in 2015.

While the number of candidates who wrote SOA exams was down in 2020, those who wrote the exams appear to have been better prepared, on average. The percentage of writing candidates who passed in 2020—53%—was greater than in any recent previous years. From 2015 through 2019, the greatest percentage of passing candidates in any year was 48%.

Nonetheless, the total number of passing candidates in 2020 was 14% lower than in 2019: approximately 20,500 in 2020 compared to approximately 23,900 in 2019. However, the 2020 figure exceeded the number of passing candidates in each year 2015 through 2017.

Figure 13

NUMBER OF CANDIDATES WRITING AND PASSING SOA ACTUARIAL EXAMS



Exam Effectiveness

Overall, many more exam candidates found COVID-19 conditions to be detrimental, rather than beneficial, to exam effectiveness (Table 2). **Frequency of social interactions** and **availability of exams** were cited as having the most determinantal impacts, on average, followed by **mental health and well-being**, **remote interactions with others**, **demands on work responsibilities** and **demands on personal responsibilities**.

While the average results for all conditions indicated a detrimental effect on exam effectiveness, the largest proportion of respondents found most conditions to be neutral as far as their effectiveness at actuarial exams. Further, responses varied little by gender.

Table 2
IMPACT OF COVID-19 CONDITIONS ON CANDIDATES' ACTUARIAL EXAM EFFECTIVENESS

Condition	Much less effective	Somewhat less effective	Neither more nor less effective	Somewhat more effective	Much more effective	Not Applicable
Frequency of social interactions	26%	34%	29%	6%	2%	3%
Availability of exams	23%	27%	36%	2%	2%	10%
Mental health and well-being	19%	30%	35%	9%	5%	2%
Remote interactions with others	13%	24%	47%	3%	1%	12%
Demands on work responsibilities or time	13%	26%	43%	11%	4%	3%
Demands on personal responsibilities	13%	19%	51%	11%	3%	3%
Amount of time available to study	16%	23%	27%	24%	7%	3%
Amount of time available to work professionally	7%	18%	50%	18%	4%	3%

N=411

Conclusion

The COVID-19 pandemic and accompanying policy changes have disrupted nearly everyone's personal and professional lives. Despite the challenges, actuaries and candidates have generally adapted. While many survey respondents find working remotely to be challenging, nearly as many find working remotely to be a more effective way to work. And nearly three-quarters of respondents appreciate the flexibility that working remotely provides.

Consequently, it's not surprising that 65% of respondents would prefer to work from home at least 3 days per week once COVID-19 is contained. Almost one-quarter of respondents would prefer to work from home every day in a typical work week. At the same time, most respondents found that networking and social interactions with co-workers during the pandemic have suffered, resulting in a detrimental impact on their professional effectiveness. In addition, many respondents have found collaboration to be less effective during COVID-19 working conditions.

More women than men who changed employment did so for pandemic-related reasons. But the reasons that actuaries formally cut back their hours or left the workforce because of the pandemic had less to do with gender and more to do with their family situation. Only about one-third of all respondents who made employment changes since January 2020 did so for reasons relating to COVID-19. However, nearly 60% of the respondents who made employment changes and live with pre-school-aged children cited pandemic-related reasons for their change.

COVID-19 slowed actuarial exam progress during 2020. Fewer candidates wrote exams during 2020 than in recent years, although a significantly greater proportion of writing candidates passed. However, the total number of candidates who passed exams during 2020 fell short of the number who passed in each of 2018 and 2019.

It is too early to know the longer-term impact that COVID-19 and the accompanying conditions will have on actuarial careers.



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About The Society of Actuaries

With roots dating back to 1889, the *Society of Actuaries* (SOA) is the world's largest actuarial professional organization with more than 31,000 members. Through research and education, the SOA's mission is to advance actuarial knowledge and to enhance the ability of actuaries to provide expert advice and relevant solutions for financial, business and societal challenges. The SOA's vision is for actuaries to be the leading professionals in the measurement and management of risk.

The SOA supports actuaries and advances knowledge through research and education. As part of its work, the SOA seeks to inform public policy development and public understanding through research. The SOA aspires to be a trusted source of objective, data-driven research and analysis with an actuarial perspective for its members, industry, policymakers and the public. This distinct perspective comes from the SOA as an association of actuaries, who have a rigorous formal education and direct experience as practitioners as they perform applied research. The SOA also welcomes the opportunity to partner with other organizations in our work where appropriate.

The SOA has a history of working with public policymakers and regulators in developing historical experience studies and projection techniques as well as individual reports on health care, retirement and other topics. The SOA's research is intended to aid the work of policymakers and regulators and follow certain core principles:

Objectivity: The SOA's research informs and provides analysis that can be relied upon by other individuals or organizations involved in public policy discussions. The SOA does not take advocacy positions or lobby specific policy proposals.

Quality: The SOA aspires to the highest ethical and quality standards in all of its research and analysis. Our research process is overseen by experienced actuaries and nonactuaries from a range of industry sectors and organizations. A rigorous peer-review process ensures the quality and integrity of our work.

Relevance: The SOA provides timely research on public policy issues. Our research advances actuarial knowledge while providing critical insights on key policy issues, and thereby provides value to stakeholders and decision makers.

Quantification: The SOA leverages the diverse skill sets of actuaries to provide research and findings that are driven by the best available data and methods. Actuaries use detailed modeling to analyze financial risk and provide distinct insight and quantification. Further, actuarial standards require transparency and the disclosure of the assumptions and analytic approach underlying the work.

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