

2020 SURVEY TOPIC BRIEF

BY THE STRUCTURAL ENGINEERING ENGAGEMENT AND EQUITY COMMITTEE
OF THE NATIONAL COUNCIL OF STRUCTURAL ENGINEERS ASSOCIATIONS

DEMOGRAPHICS

The NCSEA SE3 Committee conducted its third nation-wide survey of structural engineers in the United States from April to June 2020.

The survey is an on-going effort to identify trends, to understand the underlying factors, and to initiate conversations on engagement and equity within the profession. The 2020 SE3 Survey was developed with a focus on ten (10) key study topics; including career development, compensation, work flexibility, and overall retention, among others.

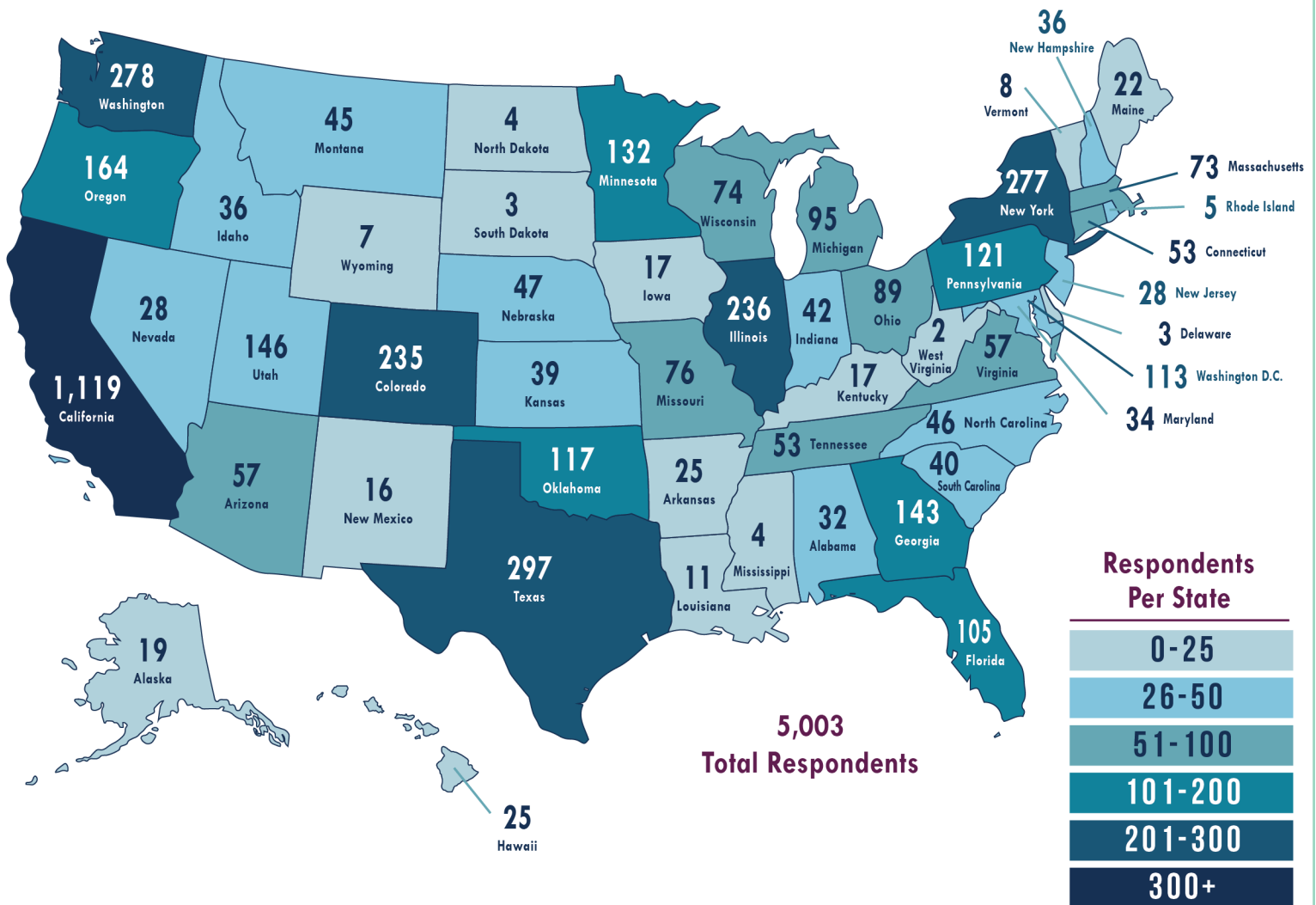
The following Demographics brief is a statistical study of the composition of respondents to the 2020 SE3 Survey. Identification of survey participants is critical for assessing the data collected, generalizing the findings, and

conducting secondary data analyses. The study investigates differences in population size, composition, and distribution.

Although only a segment of the structural engineering community was surveyed, the demographics brief serves to better inform our understanding of engagement, equity, diversity, and inclusion within the profession.

General demographics questions established in the 2016 survey included age, gender, position level, parental status, and geographic location. Additional questions regarding racial identity and sexual orientation were added to the survey in 2018. These questions have remained largely the same across all three surveys.

GEOGRAPHIC LOCATION



The 2020 SE3 survey received 5,003 responses from across all 50 states. California state had the most responses (1,119), followed by Texas (297), Washington (278), New York (277), Illinois (236), and Colorado (235). 16 states had 25 respondents or fewer responses. By U.S. metro city, New York City had the most respondents (260), followed by San Francisco (256), Los Angeles (236), Seattle (218), and Chicago (207).

WHAT CHANGED?

The 2016 SE3 Survey received 2,015 responses; approximately one-half of respondents were located in California. The 2018 SE3 Survey received 2,925 responses, with approximately one-quarter of responses from California. The 2020 survey is the first to receive responses from all 50 states. Participation increased in several states and the results are, therefore, more broadly representative of structural engineers across the United States.

Top Cities of Respondents

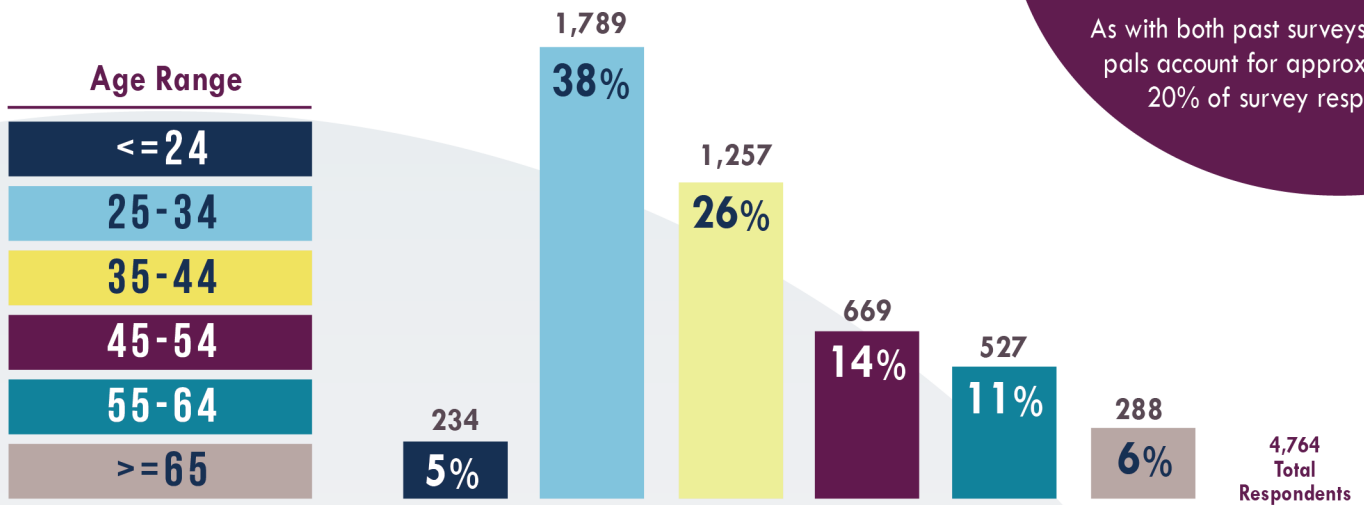
NEW YORK	260	SALT LAKE CITY	93
SAN FRANCISCO	256	ORANGE COUNTY	91
LOS ANGELES	236	KANSAS CITY	75
SEATTLE	218	HOUSTON	73
CHICAGO	207	OKLAHOMA CITY	70
DENVER	183	AUSTIN	69
OAKLAND	166	SAN JOSE	65
PORTLAND, OR	146	PHILADELPHIA	63
ATLANTA	135	TULSA	43
MINNEAPOLIS-ST. PAUL	121	OAKLAND COUNTY	42
WASHINGTON	113	PHOENIX	42
DALLAS	111	BOSTON	41
SAN DIEGO	109	MILWAUKEE	39
SACRAMENTO	107	OMAHA	38

AGE

WHAT CHANGED?

The distribution of age and position titles of the 2020 survey respondents is very similar to that of the 2016 and 2018 SE3 surveys.

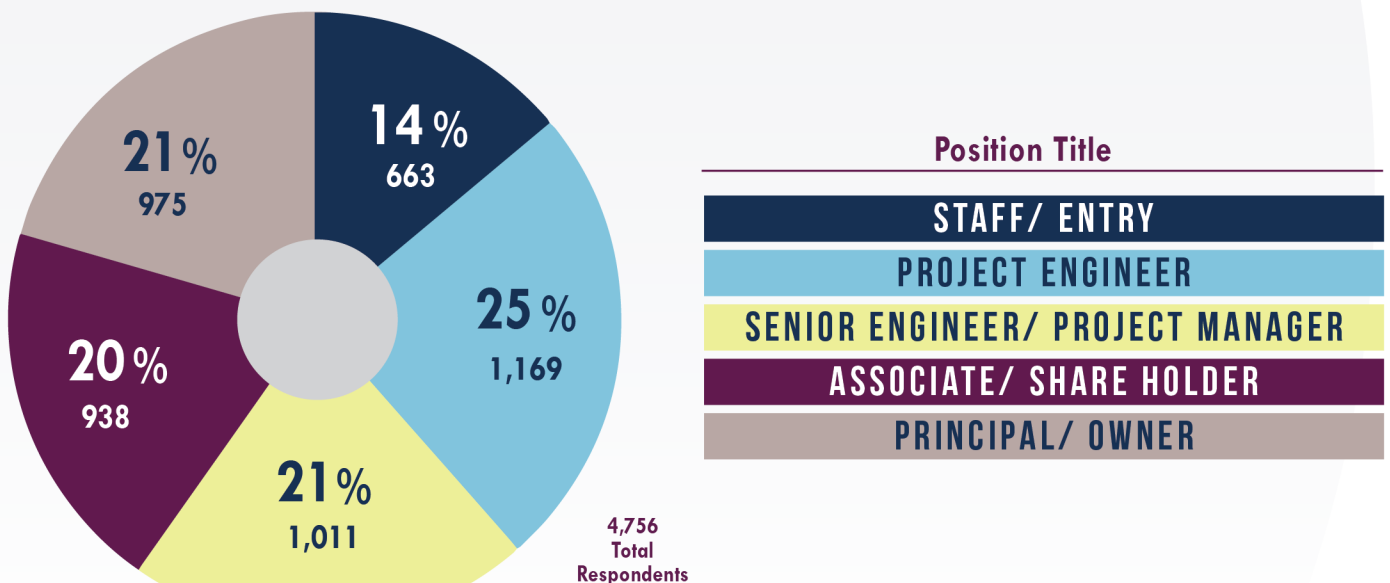
As with both past surveys, principals account for approximately 20% of survey respondents



Roughly 5% (234) of respondents are less than 24 years old and 6% (288) of respondents are 65 years old or older. 38% (1,789) of respondents are between 25 to 34 years old, 26% (1,257) of respondents are between 35 to 44 years old, 14% (669) of respondents are between 45 to 54 years, and 11% (527) of respondents are between 55 to 64 years old.

POSITION TITLE

Out of 4,756 respondents who provided their position title, 14% (663) hold the position of "Staff/Entry", 25% (1,169) hold the position of "Project Engineer", 21% (1,011) hold the position of "Senior Engineer/Project Manager", 20% (938) hold the position of "Associate/Shareholder", and 21% (975) hold the position of "Principal/Owner".

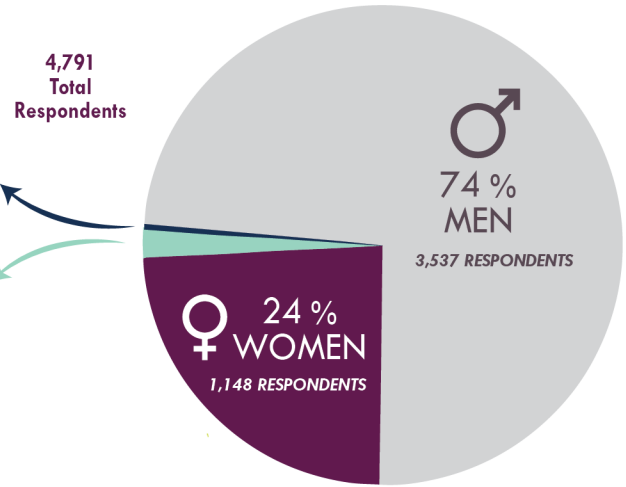
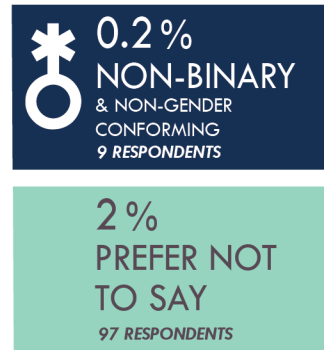


GENDER

Out of 4,791 respondents who provided a gender identity, 24% (1,148) identified as female, 74% (3,537) identified as male, 0.2% (9) identified as non-binary or non-gender conforming, and 2% (97) preferred not to say.

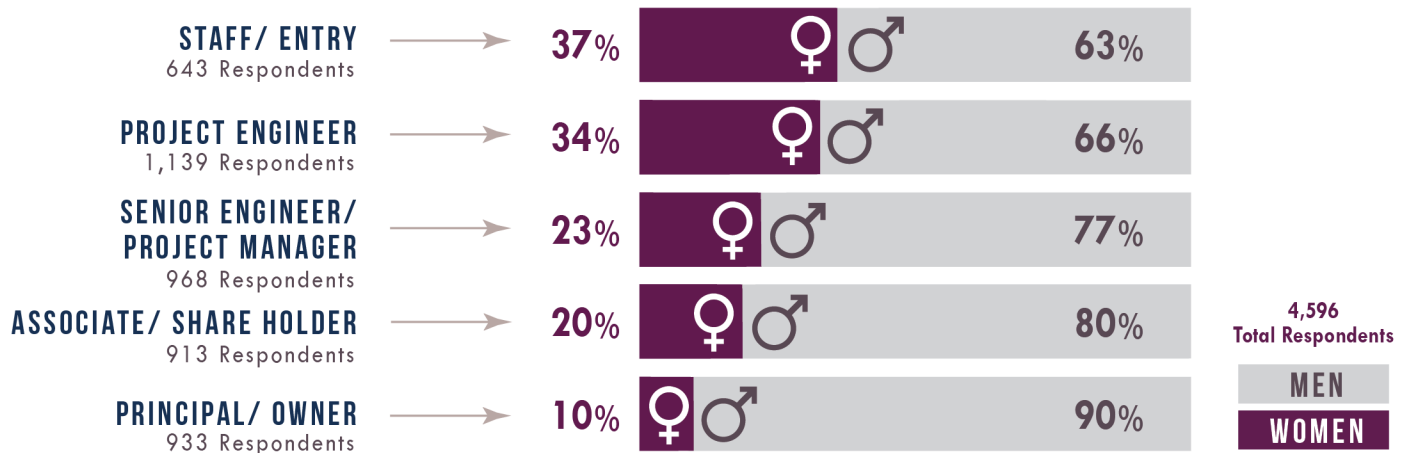
WHAT CHANGED?

71% of 2016 SE3 Survey respondents, and 68% of 2018 SE3 Survey respondents were men. Note in 2016, respondents did not have the option to select non-binary or non-gender conforming, and to opt out of self identifying. With improvements in survey distribution, and reduction of survey bias, the 2020 survey response population is likely more representative of the actual population of structural engineers in the United States.



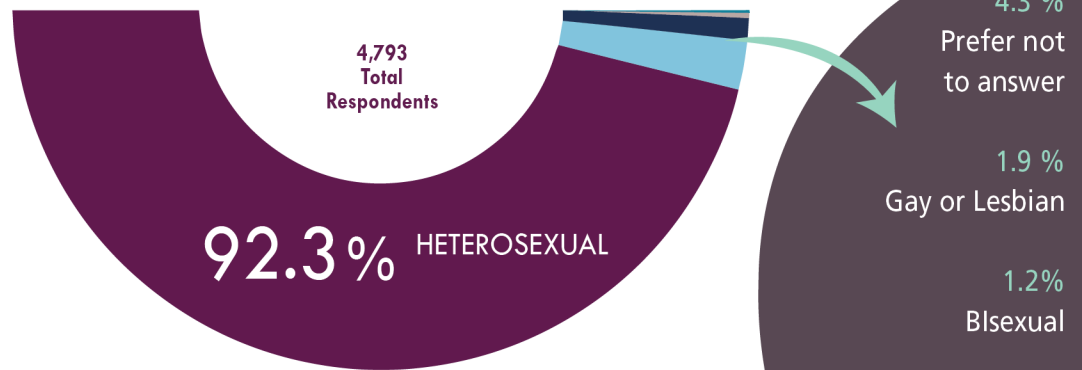
POSITION BY GENDER

When examining the gender composition of each position level, there are fewer women at higher position levels. 37% of Staff/Entry respondents are female compared to 10% of Principal/Owner respondents.

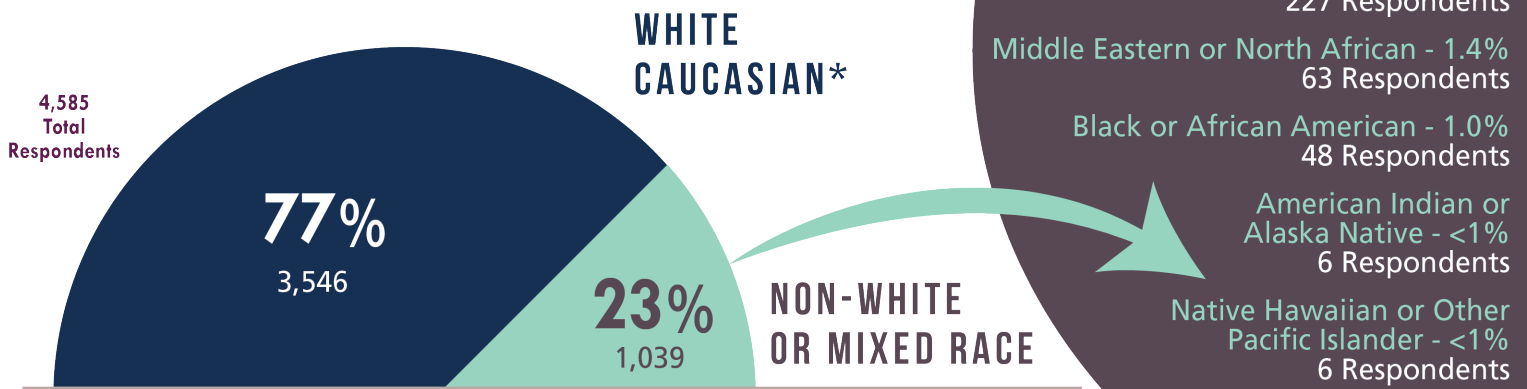


SEXUAL ORIENTATION

92.3% (4,425) of respondents identified as heterosexual, 1.9% (92) of respondents identified as gay or lesbian, 1.2% (55) of respondents identified as bisexual, and 4.3% (207) of respondents preferred not to disclose.



RACE

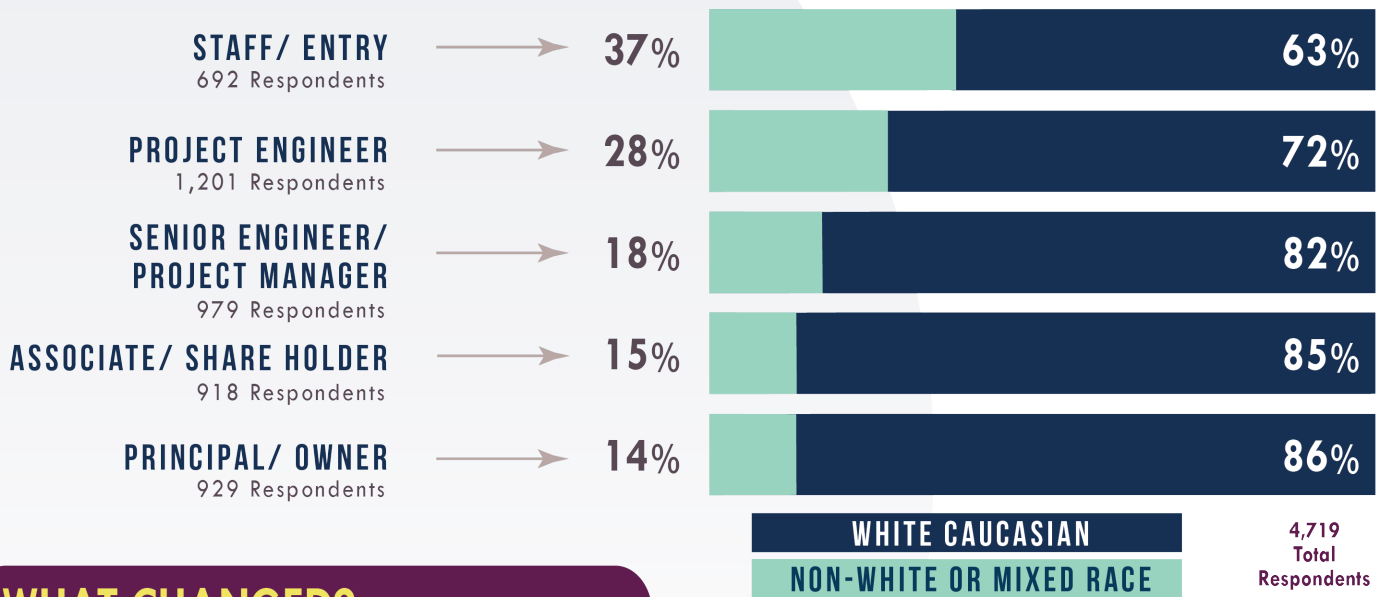


77% of respondents (3,551) identified as White Caucasian, and 23% (1,044) identified as Non-White or Mixed Race*. 10% of respondents (459) identified as Asian, 4.4% (203) as LatinX, 1.4% (63) identified as Middle Eastern or North African, and 1.0% (48) identified as Black or African American. Less than 1% of respondents (6) identified as American Indian or Alaska Native, and less than 1% (6) identified as Native Hawaiian or Other Pacific Islander. 5% of respondents (227) identified as White Caucasian and another race, listed here as "Multi-racial".

* Includes respondents who identified only as "White Caucasian". Respondents who selected "White Caucasian" and another race are included under "Non-White or Mixed Race"

POSITION BY RACE

When examining the racial composition of each position level, there are fewer minorities at higher position levels. 37% of Staff/Entry respondents identify as non-white minorities compared to 14% of Principal/Owner respondents.

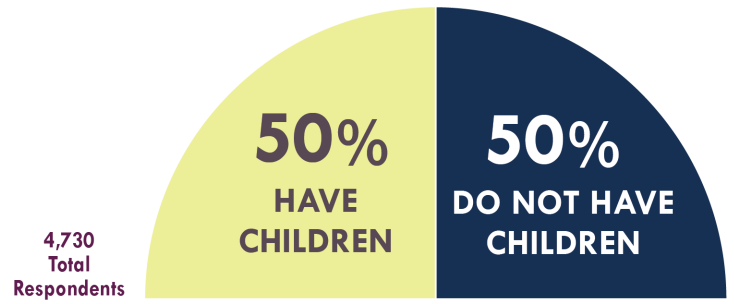


WHAT CHANGED?

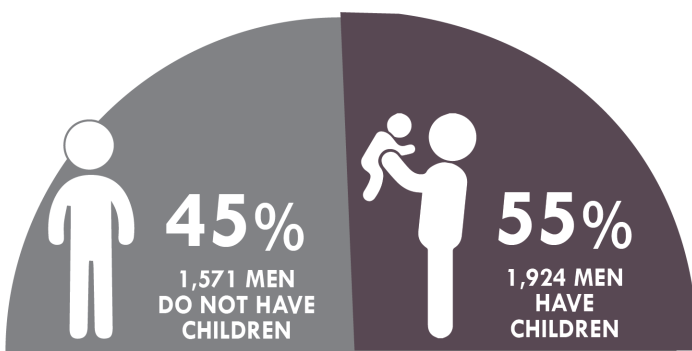
The 2016 SE3 survey did not include race demographics. 80% of 2018 survey respondents identified as white compared to 77% in 2020. The 2020 survey response population appears to be more racially diverse.

CHILDREN

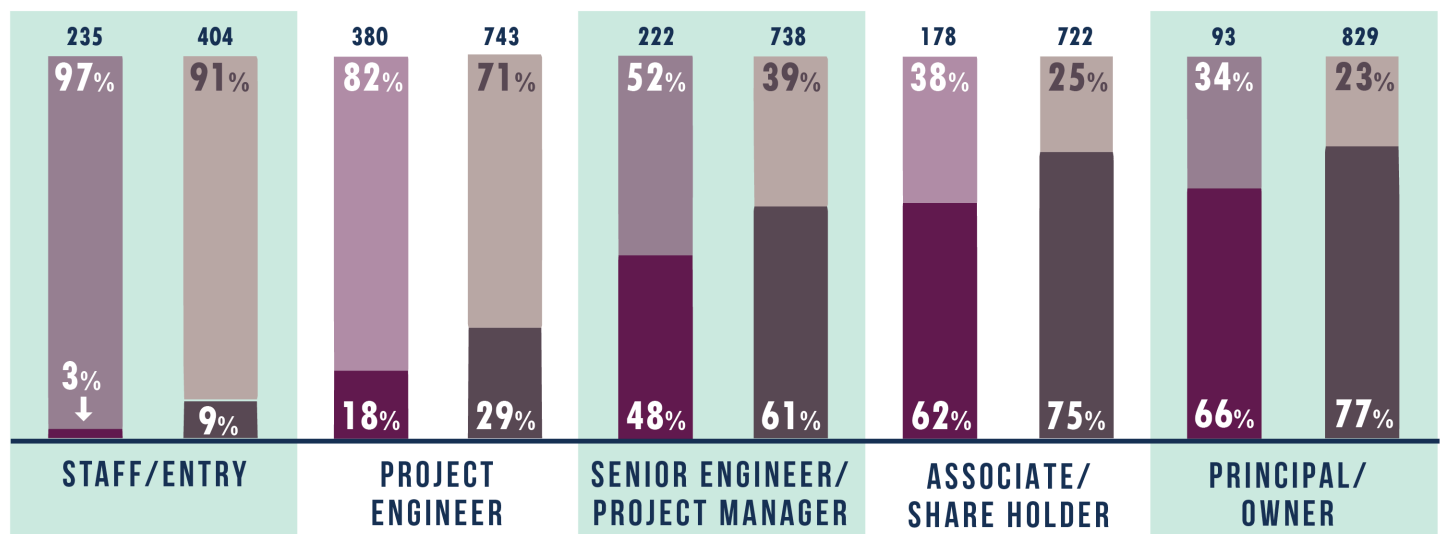
50% of all respondents have children. However, this skews heavily towards male respondents. 55% of male respondents have children compared to 33% of female respondents. This trend holds across all position levels. 29% of male project engineers have children compared to 18% of female project engineers. 77% of male principals have children compared to 66% of female principals.



CHILDREN BY GENDER

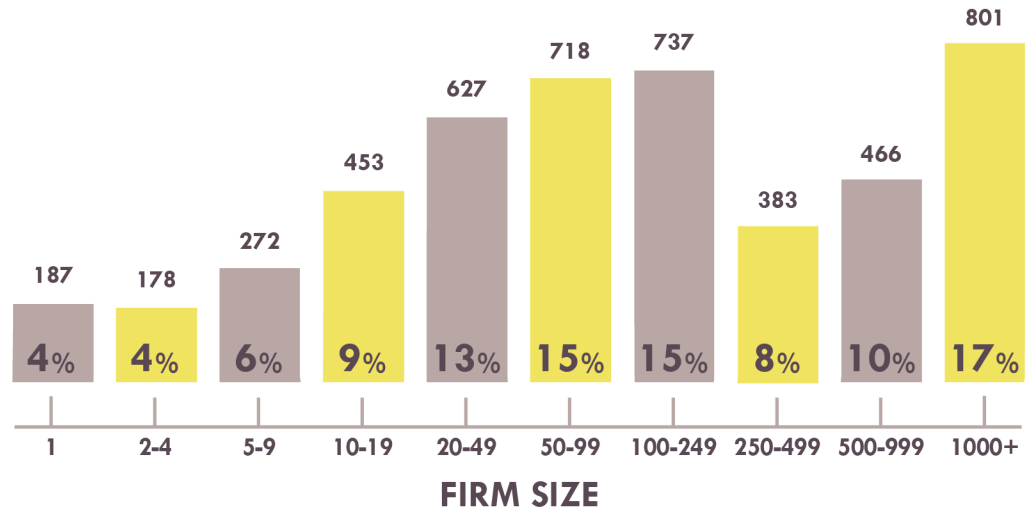


CHILDREN BY POSITION



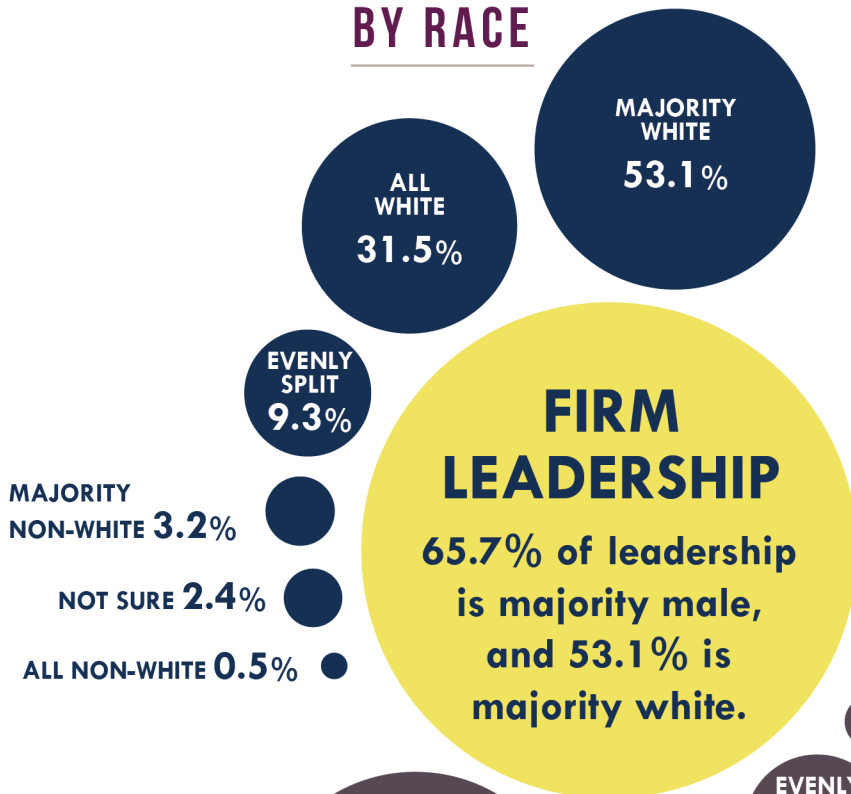
FIRM SIZE

14% (637) of respondents work at firms with less than 10 employees. 37% (1,798) of respondents work at firms with 10-99 employees, 33% (1,586) of respondents work at firms with 100-999 employees, and 17% (801) of respondents work at firms with more than 1,000 employees.



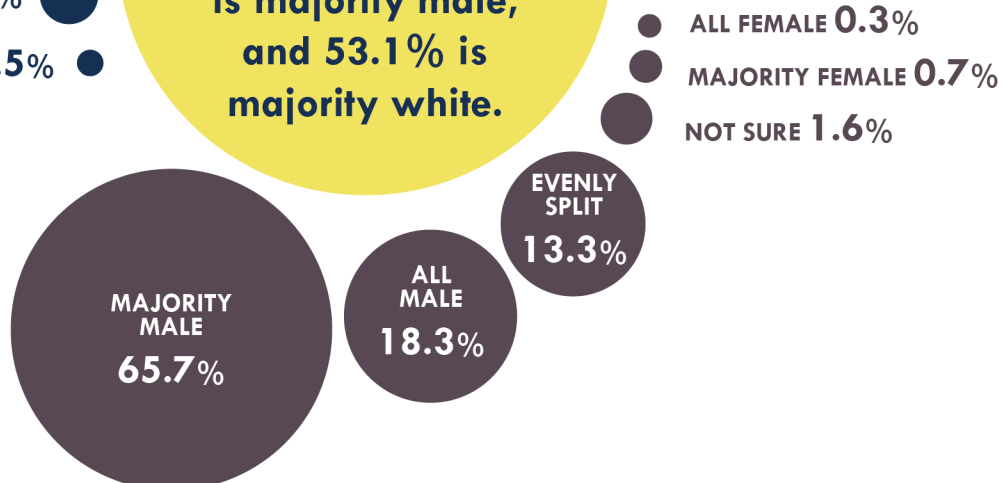
FIRM LEADERSHIP

BY RACE



85% (3,933) of respondents work at firms where the leadership is majority White or all White Caucasian. 84% (3,894) of respondents work at firms where the leadership is majority Male or All Male. It is difficult to define “firm leadership” consistently for all respondents. The Committee decided to define “leadership” loosely as “the group of leaders who make decisions affecting your daily work experience, office culture, and environment.” The Committee is aware of limitations associated with both the question text and selection options, and will be revising in future studies.

BY GENDER



SE3



NCSEA
National Council of Structural Engineers Associations

The information contained in this report was gathered from an NCSEA sponsored survey administered online by the SE3 Committee in early 2020. While we believe the information presented in this document is an accurate, unbiased representation of the data received in the survey, the matters discussed are sometimes subject to differences in opinion or approach. As such, neither NCSEA nor its Board, committees, writers, editors, firms, or individuals who have contributed to this report make any warranty, expressed or implied, or assume any legal liability or responsibility for the use or reference to findings, conclusions, or recommendations expressed herein.

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