a) Missing/insufficient data were handled by deleting them/not using them for analysis
b) $M_{sucessful}$ = 5.430, SD = 1.3997, 95% CI = [4.9403, 5.9191]
M_{Before} = 5.047, SD = 1.5087, 95% CI = [4.4731, 5.6102]
M_{after} = 5.063, SD = 1.5159, 95% CI = [4.4891, 5.6371]
M_{length} = 1.156, SD = 0.8207, 95% CI = [0.988, 1.325]

	Successful Experience	*Attitude Before*	*Attitude After*	*Length of Usage*
Successful Experience	1			
Attitude Before	0.056130309	1		
Attitude After	-0.013790585	0.635328543	1	
Length of Usage	0.210058995	0.135852174	0.051783137	1

To understand statistical association between the variables, we analyzed Pearson's correlation coefficient (ρ). The overall data (no distinction of sex) showed both weak and strong association between different variables. The variable "successful experience" showed extremely weak correlation between the variable "attitude before", "attitude after" and "length of usage" with its coefficient of ρ = 0.05613, -0.0138, and 0.2100, respectively. However, the variable "attitude before" had somewhat strong correlation with the variable "attitude after" ρ = 0.6353. The other variables had close-to-zero correlation with ρ approaching 0.

Cronbach Alpha and Related Statistics

Items	Cronbach Alpha	Std. Alpha	G6(smc)	Average R
All itmes	0.4784	0.4662	0.5011	0.1792
Successful excluded	0.5867	0.5314	0.535	0.2743
before excluded	0.1513	0.2129	0.1691	0.0827
after excluded	0.2656	0.3171	0.2439	0.134
length excluded	0.4811	0.4668	0.4997	0.2259

To test the internal consistency and association between different variables, Cronbach Alpha (α) was used to analyze the data. The data showed internal consistency of α = 0.4784, implying that there exists variables decreasing the consistency. When the mediating/moderating variable "successful experience" was excluded from the data, the internal consistency increased significantly, α = 0.5867. On the other hand, when the mediating/moderating variable "length of usage" was excluded, the consistency improved only slightly, α = 0.4811. These information further provides us with knowledge that successful experience does not change attitude before and after the usage of dating apps.

Male	Successful Experience	Attitude Before	Attitude After	Length of Usage
Successful Experience	1			
Attitude Before	0.314795764	1		
Attitude After	-0.034575118	0.539707411	1	
Length of Usage	0.453453158	0.200719038	-0.209656017	1

Female	Successful Experience	Attitude Before	Attitude After	Length of Usage
Successful Experience	1			
Attitude Before	-0.121456743	1		
Attitude After	0.013491523	0.673359197	1	
Length of Usage	0.185903244	0.133042304	0.135201268	1

The Pearson's correlation coefficient differs from different sexes. The correlation coefficient of the variable "attitude before" and "attitude after" in male was lower than that of in female, with its value $\rho_{male} = 0.5397$ and $\rho_{female} = 0.6734$. Given this fact, we are able to make an assumption that male had more change in attitude after using the dating app, regardless of successful experience or length of usage, than female does.

```
> summary(fit1)

Call:
lm(formula = after ~ before + suc + length)

Residuals:
    Min      1Q  Median      3Q     Max
-3.6607 -0.6452 -0.1168  0.7415  2.9264

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  2.13048    0.76662   2.779  0.00727 **
before       0.64439    0.10088   6.387 2.74e-08 ***
suc         -0.04800    0.11019  -0.436  0.66469
length      -0.04809    0.18938  -0.254  0.80043
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.196 on 60 degrees of freedom
Multiple R-squared:  0.4067,    Adjusted R-squared:  0.3771
F-statistic: 13.71 on 3 and 60 DF,  p-value: 6.433e-07
```

The analyses hereafter were conducted in R. To test the hypotheses, we fitted the overall data using multiple linear regression. With the variable "attitude after" being the dependent variable and the variable, "attitude before", "successful experience", and "length" being the independent variable, we found that "attitude before" was associated with the dependent variable ($\beta = 0.6444$, $p < 0.001$), supporting H1 and H2. However, the estimate of the variable "successful experience" and "length of usage" were insignificant ($\beta_{successful} = -0.0480$, $p = 0.6647$; $\beta_{length} = -0.0481$, $p = 0.80043$), rejecting H3. The analysis clarifies that successful experience and length of usage do not moderate/mediate the attitude change before and after using the dating app.

Male

```
> summary(fit2)

Call:
lm(formula = after2 ~ before2 + suc2 + length2)

Residuals:
    Min      1Q  Median      3Q     Max
-3.2253 -0.6754 -0.0461  0.6688  2.6415

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.93996    1.10882   0.848    0.402
before2      0.69184    0.12167   5.686 1.41e-06 ***
suc2         0.12607    0.16726   0.754    0.456
length2      0.05308    0.23162   0.229    0.820
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.224 on 39 degrees of freedom
Multiple R-squared:  0.4633,    Adjusted R-squared:  0.4221
F-statistic: 11.22 on 3 and 39 DF,  p-value: 1.903e-05
```

Female

```
> summary(fit2)

Call:
lm(formula = after2 ~ before2 + suc2 + length2)

Residuals:
    Min      1Q  Median      3Q     Max
-3.2253 -0.6754 -0.0461  0.6688  2.6415

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.93996    1.10882   0.848    0.402
before2      0.69184    0.12167   5.686 1.41e-06 ***
suc2         0.12607    0.16726   0.754    0.456
length2      0.05308    0.23162   0.229    0.820
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.224 on 39 degrees of freedom
Multiple R-squared:  0.4633,    Adjusted R-squared:  0.4221
F-statistic: 11.22 on 3 and 39 DF,  p-value: 1.903e-05
```

We then separated the analysis to different sex. It was clear that the variable "attitude before" had significance/correlation with "attitude after" ($\beta_{male} = 0.6918$, $p < 0.001$; $\beta_{female} = 0.6918$, $p < 0.001$). Likewise, the variable "successful experience" and "length of usage" had little or no significance ($p_{successful} = 0.456$, $p_{length} = 0.820$), rejecting H3. The attitude after the usage of dating app is not mediated/moderated by both length of usage and successful experience for both male and female.