

# Comparisons of Women and Men Who Completed PRIME For Life®

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## Abstract

Previous evaluations of PRIME For Life (PFL), an evidence-based indicated prevention program, have shown that program completion is associated with positive changes in beliefs and intentions, as well as lower recidivism rates. This report describes PFL's utility with both women and men. Data from a comparison group study in North Carolina, as well as from five state program evaluations conducted in 2011, indicate that PFL produces positive changes for both women and men on key outcomes. In the multistate data, gender differences that did occur were generally due to baseline differences in which men had beliefs consistent with higher-risk substance use. Even in these instances, men showed positive changes, in some cases closing the gap between them and women. Thus, findings support the value of PFL as an indicated prevention program for both women and men.

## Introduction

In 2010, 31% of traffic fatalities in the United States involved a driver whose blood alcohol content was over the legal limit of .08.<sup>1</sup> Similarly, in 2009, 63% of fatally injured drivers were tested for drugs, and of these, a full one-third tested positive.<sup>2</sup> Thus, it is clear that in the United States, driving under the influence of alcohol and drugs is a serious public health problem.

Research suggests that a variety of differences exist between women and men convicted of operating a motor vehicle under the influence of alcohol and/or drugs (OUI). According to a recent review,<sup>3</sup> more men than women are arrested for OUIs each year, and men have higher rates of recidivism (i.e., subsequent OUIs).

Relative to their male counterparts, women convicted of OUI tend to be more educated; have lower income; be separated, divorced, or widowed; have a partner who abuses alcohol; have parental alcohol problems; and have a greater history of mental health problems. Factors predictive of recidivism are somewhat different for the genders as well.

A variety of interventions have been developed to reduce recidivism among those convicted of OUIs. Among those that have shown promise are group-based, psychosocial interventions.<sup>4</sup> With regard to psychosocial interventions, some authors have suggested that, because of the existence of gender differences, there is a need to develop separate OUI interventions for women and men.<sup>3</sup> This raises the question

as to whether existing intervention programs are equally effective for both genders. For instance, given their higher recidivism rates, men may benefit less from such programs. On the other hand, it is possible that women will benefit less if interventions are not geared toward unique needs they may have.

PRIME For Life (PFL) is a motivational intervention for people who need indicated prevention, such as those who have been arrested for impaired driving. Both the content and delivery of the program are designed to be non-confrontational and to give participants the opportunity to assess the risk of their substance use without engendering resistance. Participants are encouraged to explore their current views as well as information that may challenge those views. Prior research suggests that motivational interventions like PFL contribute to positive changes in attitudes, risk perception, and behavioral intentions,<sup>5,6</sup> as well as likelihood of recidivism.<sup>7,8</sup> While data support PFL as an effective intervention, a more refined question concerns whether this is true for both men and women.

## Methods

Three sources of data provide information about whether women and men differ in the benefits received from PFL participation.

### Comparison Group Study

PRIME researchers published an article that compared people receiving PFL ( $n = 450$ ) to those receiving an alternative intervention ( $n = 72$ ).<sup>6</sup> Participants typically had been required to take the programs because of a first offense for alcohol- or drug-impaired driving.

Participants were generally young, with 36% ages 15-24, 42% 25-39, and 22% 40 or older. With regard to education, 37% had less than a high school education, high school degree, or a GED; 36% had attended some college or technical school; and 28% had a college degree. The majority (79%) of participants described their race/ethnicity as White, with 12% identifying as African American/Black, 2% as Asian American/Asian, 3% as Latino/Hispanic, and 4% as another race or ethnicity, multiracial, or having no primary identity.

Prior to and following the intervention, participants anonymously completed self-report questionnaires. Copies of the questionnaires and information regarding psychometric properties are described in the published report. Statistical analysis (see Appendix A) tested for overall differences between interventions as well as whether these findings differed by gender.

### Intervention Response Study

For this technical report, we analyzed data from a larger sample to examine more closely baseline gender differences, as well as changes that occur for women and men following participation in PFL. We collected data as part of the PFL program evaluation process in five states (Iowa, Utah, Indiana, Georgia, and South Carolina). We compared intervention response between women ( $n = 772$ ) and men ( $n = 1,868$ ) aged 18 years or older who completed PFL in 2011. The vast majority of participants (99%) attended PFL after being legally mandated as a result of a drug- or alcohol-related infraction. Of these, 79% had been arrested for OUIs, 8% for drug possession, 6% for underage drinking, 3% for underage drinking and driving, and 4% for other offenses.

Overall, participants were young, with 32% ages 18-24, 29% 25-34, 17% 35-44, 15% 45-54, and 7% over 55. With regard to education, 11% had less than a high school education, 35% had completed high school or a GED, 34% had attended some college or technical school, 8% had an associate's degree, and 12% had a bachelor's or graduate degree. The majority (76%) of participants described their race/ethnicity as White, with 13% identifying as African American/Black, 1% as Asian American/Asian, 5% as Latino/Hispanic, 1% as Native American, less than 1% as Pacific Islander, and 4% as another race or ethnicity or having no primary ethnic/racial identity.

Methods were as described above for the Comparison Study. Copies of the questionnaires and information regarding psychometric properties are available upon request. Statistical analysis (see Appendix A) tested for overall differences between genders as well as whether one showed different amounts of improvement compared to the other. Because of the relatively large number of outcomes, we used a Bonferroni-adjusted alpha level of .005 as the criterion for statistical significance.

### Recidivism Study

Using data collected by the state of Maine, we examined 3-year recidivism for OUI offenders ( $N = 5,262$ ) who were required to participate either in PFL or, among those with signs of increased risk of negative consequences, PFL plus further substance use treatment (PFL+Tx). To be included, each individual must have received the OUI or completed the intervention between 9/1/2002 and

8/31/2003. We categorized participants into three intervention types: did not complete, completed PFL, and completed PFL+Tx. Analyses (see Appendix A) assessed whether gender was related to recidivism, and whether PFL or PFL+Tx completion had a different effect on recidivism for women than for men.

## Results

### Comparison Group Study

*Overall program benefit occurred for participants, often more so for PFL versus the alternative intervention.*

The analyses reported in the published manuscript focused on short-term (baseline to posttest) changes. Overall, the results showed superior outcomes for PFL participants on their understanding of the effects of tolerance, perceived risk for addiction, problem recognition, and risk for negative consequences. PFL participants also reported slightly better and statistically significantly greater program satisfaction. Participants in both interventions showed positive changes in intentions for future substance use and did not differ from each other.

*Women and men benefited similarly from program participation.*

We also tested whether gender differences existed. On the outcomes on which PFL outperformed the alternative intervention, we found that the magnitude of these benefits did not differ between women and men. Additionally, women and men both showed positive benefit in future intentions.

*Men drank more heavily before intervention and understood tolerance less well. However, they still experienced as much positive change as women.*

Although not reported in the published article, we more closely examined patterns of change in that sample. We first looked to see whether women and men differed on many outcome variables before participation and, in general, they did not. However, baseline differences did exist in which men had poorer understanding of tolerance as well as greater usual and peak drinking in the previous 30 days. Nonetheless, as reported in the manuscript, both women and men showed similar rates of improvement to each other from baseline to posttest.

### Intervention Response Study

*In many domains, women and men did not differ.*

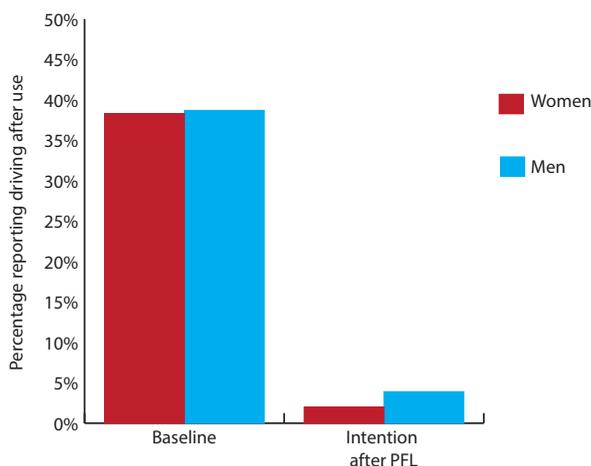
For many of the questions asked, women’s and men’s responses did not differ prior to PFL, and both showed similar amounts of change. Examples of these items include perceived risk from drinking, intentions to

use drugs, intentions to drive after using substances, perceived threat to valued things with continued prior drinking choices, and recognition of current or past substance use problem or addiction. On all of these items, both women and men experienced positive change after PFL that was statistically significant. Figures 1 and 2 provide examples of the observed patterns. As the figures illustrate, women and men started out similarly at baseline and then showed similar positive changes with regard to perceived risk from drinking and their intentions to not drive after substance use.

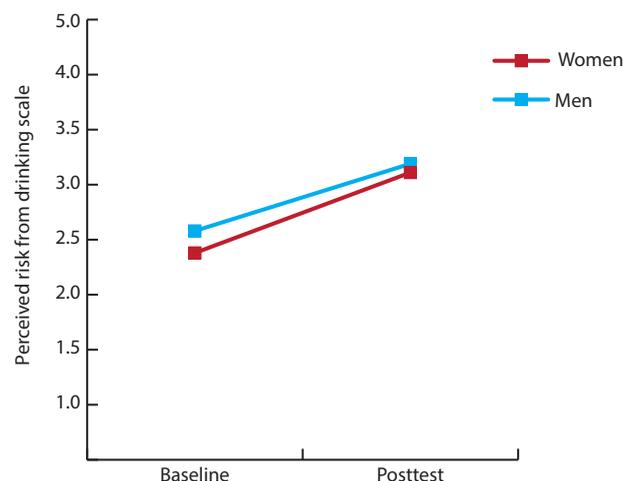
*In other domains, men tended to have cognitions considered higher risk compared to women. However, in these cases, men still experienced at least as much positive change as women.*

For many of the questions asked, at baseline and at posttest men tended to answer more in the direction associated with high-risk choices than did women. This pattern included men having lower motivation to drink or use drugs at low-risk levels, higher estimations of how many

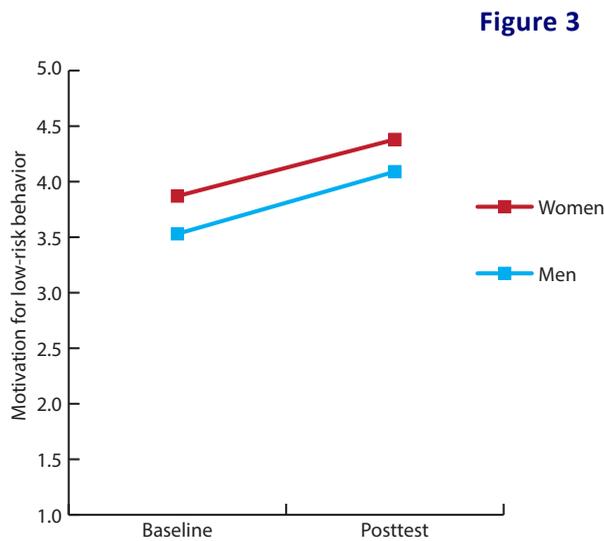
**Figure 1**



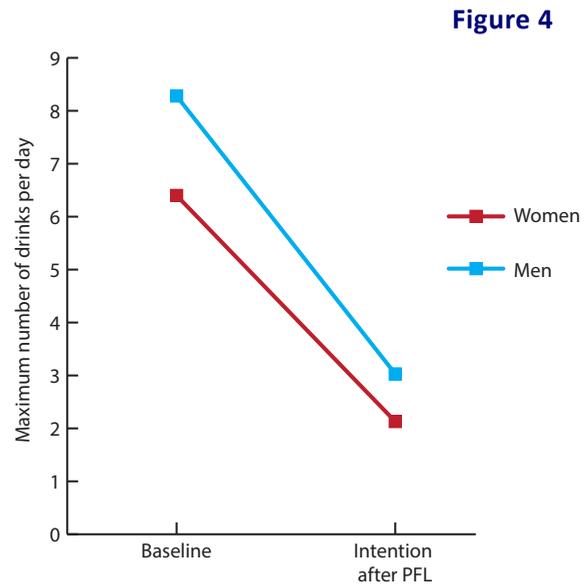
**Figure 2**



drinks one could have before it was high risk or one was too impaired to drive, and lower perceived threat to valued things if using substances once a week. However, men showed as much improvement as women on most of these and greater improvement on the remaining items (estimations of how many drinks one could have in a day before it was high risk and correct identification of a standard drink). Figure 3 is an example.

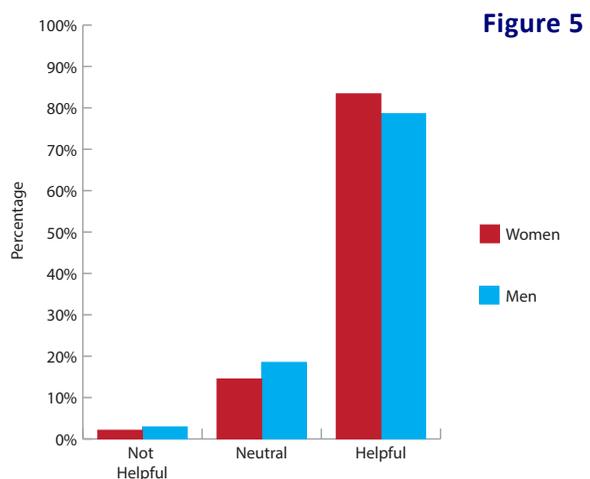


It shows that, compared to women, men had lower motivation for low-risk behavior (defined in PFL as not drinking at all or following guidelines for low-risk drinking). However, both genders experienced similar improvement. A similar finding was that, relative to women, men tended to report having higher usual and maximum number of drinks in the 90 days before attending PFL. Nonetheless, they showed similar amounts of change between that and their intentions for the future. Figure 4 illustrates this pattern by showing that men had greater maximum numbers of drinks per day before attending PFL and had roughly similar rates of improvement to women.



Comparisons of women's and men's ratings of PRIME For Life showed that both viewed it as helpful.

The majority of PFL participants indicated that PFL helped them decide, feel confident about their ability, and develop skills to drink or use drugs less, as well as to develop plans for alternatives to high-risk choices. Although the proportion of participants saying they found PFL helpful was slightly lower for men (79%) than for women (83%), overall responses to the program were positive (Figure 5).



## Recidivism Study

*PFL participant recidivism was lower than for those who did not take PFL; this was true for both women and men.*

People who participated in PFL or PFL+Tx had statistically lower likelihoods of having a subsequent OUI than people who did not complete a program ( $p < .001$  and  $p < .05$ , respectively). After adjusting for age, previous OUIs, and previously completing a program, 11.3% of noncompleters, 7.5% of PFL completers, and 9.3% of PFL+Tx completers had an OUI in the 3-year period.

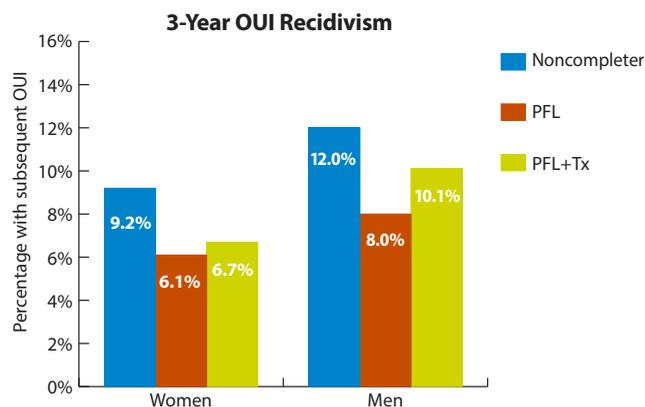
Comparing genders, men overall had higher recidivism rates ( $p < .001$ ). Despite this, PFL participation appeared to benefit women and men in similar ways. Figure 6 shows that both women and men who completed PFL or PFL+Tx had lower recidivism than those who did not complete a program. Among men participating in PFL and PFL+Tx, there was a 4% and 1.9% difference in recidivism rates of completers compared to noncompleters, which was not significantly different than the 3.1% and 2.5% for women.

## Discussion

The results indicate that PFL performed better than an alternative intervention, and women and men both experienced this superior benefit. Additionally, while men sometimes show greater risk in their cognitions and behavior, women and men show similar rates of improvement as part of participating in PFL. Hence, the evidence suggests that PFL is effective with both women and men in both short-term cognitive

changes and recidivism. Additionally, both typically perceive PFL as helpful.

**Figure 6**



Even on indicators where men’s scores were more indicative of substance use problems than women’s, both genders tended to benefit equally from the PFL intervention. Specifically, both women and men were satisfied with the program’s helpfulness and evidenced benefit in the following domains:

- Motivation to follow low-risk guidelines for substance use
- Awareness of the potential for developing substance use problems
- Intentions to use substances at lower levels than prior to participating in PFL
- Intentions to avoid driving under the influence of substances
- Recognition of ways in which substance use threatens things they value
- Recognition of current or past addiction or problem with substances
- Knowledge of what constitutes a standard drink
- Recidivism

These findings support the use of PRIME For Life with both women and men. Future evaluations will continue to examine the program's effectiveness with participants of both genders, including behavioral outcomes and long-term recidivism.

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## Appendix A: Methods Used in Data Analyses

### Comparison Group Study

We analyzed the data using Generalized Estimating Equations. We first tested the hypothesis that PFL would show greater change than the alternative intervention from baseline to posttest. Predictors included Condition, Time (baseline to posttest), and the Time  $\times$  Condition interaction. We then added interaction terms to test for the moderating effects of gender. Finally, we performed a cross-sectional t-test comparison of intervention conditions on the posttest program satisfaction scale, and for PFL participants, a comparison of women and men.

### Intervention Response Study

We analyzed the data using Generalized Estimating Equations to examine gender

differences in changes from baseline to posttest. Key predictors of interest were Time (baseline to posttest), Gender, and the Time  $\times$  Gender interaction. We controlled for the effects of age, race, and education level. We used Type III tests to indicate statistical significance, which was set as a Bonferroni-corrected  $p < .005$ .

### Recidivism Study

We used logistic regression in which having a subsequent OUI during the 3-year follow-up was the outcome. Predictors were the main effects of Intervention Type and Gender. We then added the Intervention Type  $\times$  Gender interaction to assess whether PFL or PFL+Tx completion had a different effect on recidivism for women than for men.