



#BeeWell Brief: Sleep

Based on the 2022
#BeeWell data



In this #BeeWell Brief, we focus on the relationship between sleep and wellbeing, primarily using data from our 2022 survey, which generated responses from approximately 35,000 young people in more than 150 schools across Greater Manchester (see our [headline findings report](#) for more detail).

In the #BeeWell survey, young people are asked, “Is the amount of sleep you normally get enough for you to feel awake and concentrate on your schoolwork during the day?”, to which they can respond Yes or No. We refer to this as *sleep quality* throughout the brief because the restful and restorative nature of sleep underpins the question (i.e., young people feel sufficiently rested to feel awake and concentrate on schoolwork).

Overall, we found that sleep quality among young people in Greater Manchester declined as they got older. But it’s not as simple as sleep quality declining with age. We also found inequalities based on factors such as gender and physical health. Critically, those who reported lower sleep quality also reported much lower wellbeing. Put simply, *sleep matters*. Read on to learn more about our findings and recommendations for improving young people’s sleep.

1. Sleep quality among young people in Greater Manchester

Drawing on our total annual survey samples, Figure 1 shows that in 2021, 59.73% young people who took the #BeeWell survey reported that they get enough sleep; by 2022, this figure had fallen to 56.21%.

When breaking the #BeeWell cohort down by year group, Figure 2 shows that the proportion of those getting enough sleep when they were in Year 8 in 2021 (64.05%) had decreased by about 5% a year later in 2022 when they were in Year 9 (59.18%). In contrast, Figure 3 shows that the proportion of young people in Year 10 who reported getting enough sleep decreased less than 1%, from 54.85% in 2021 to 54.03% in 2022.

Figure 1: Percentage of young people getting enough sleep in Greater Manchester (#BeeWell total annual survey samples, 2021 and 2022).

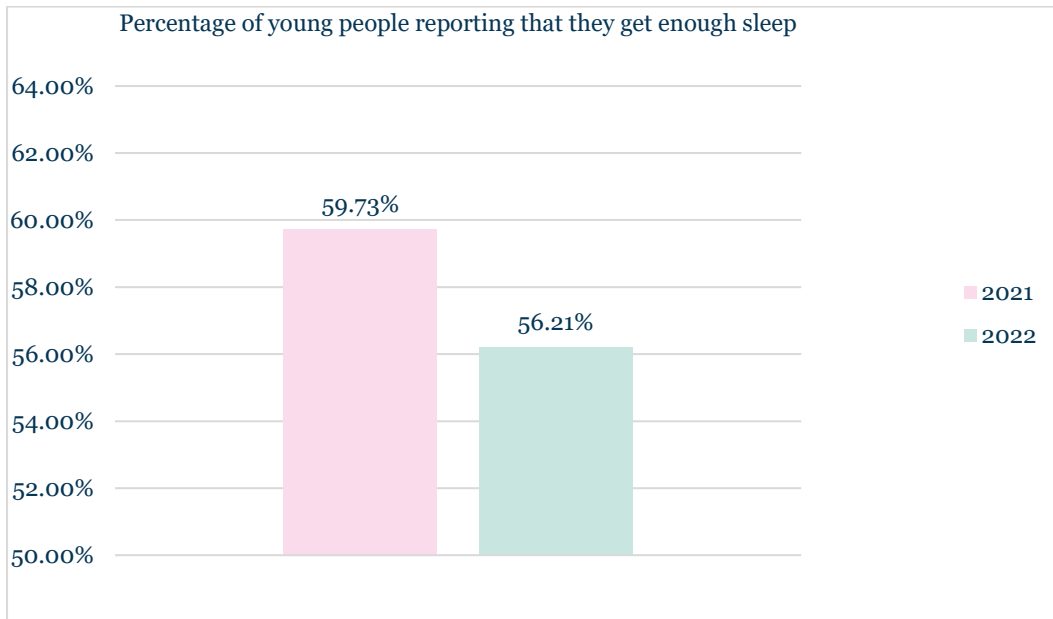


Figure 2: Percentage of young people in the #BeeWell longitudinal cohort getting enough sleep in Greater Manchester in 2021 (Year 8) and 2022 (Year 9).

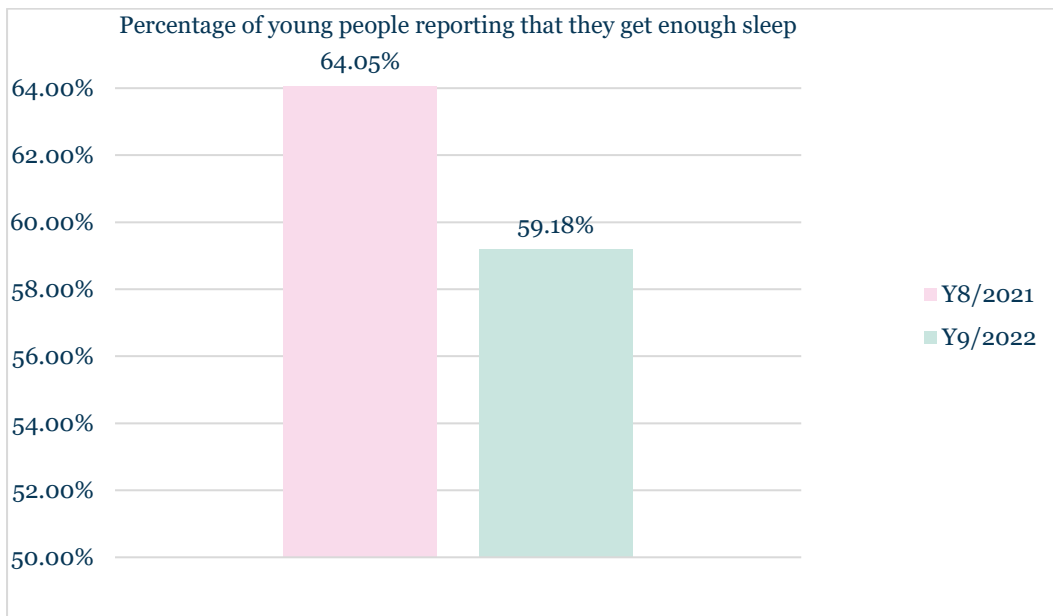
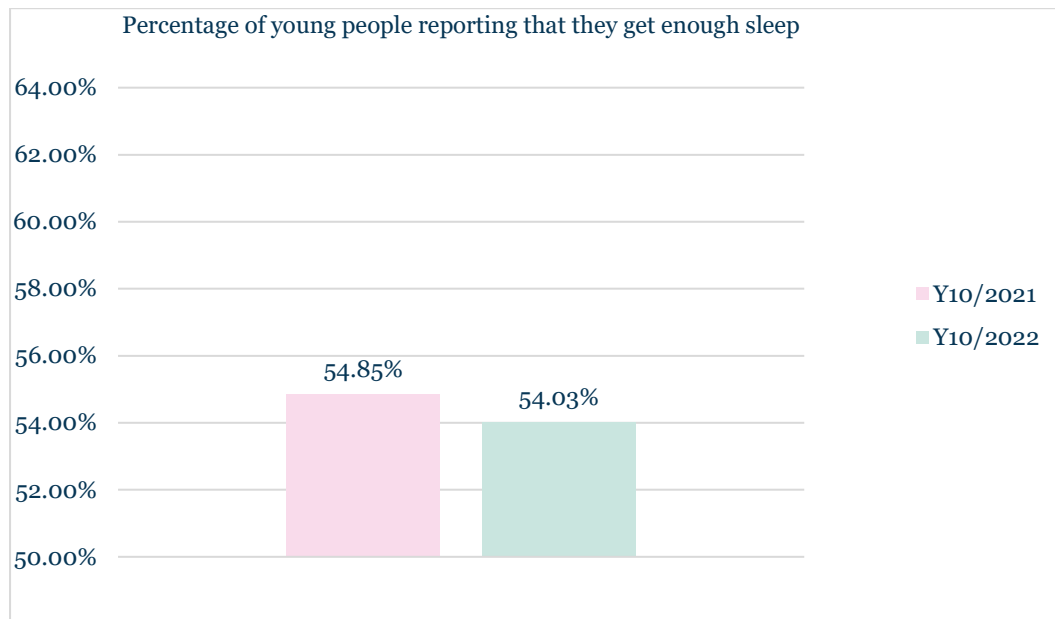


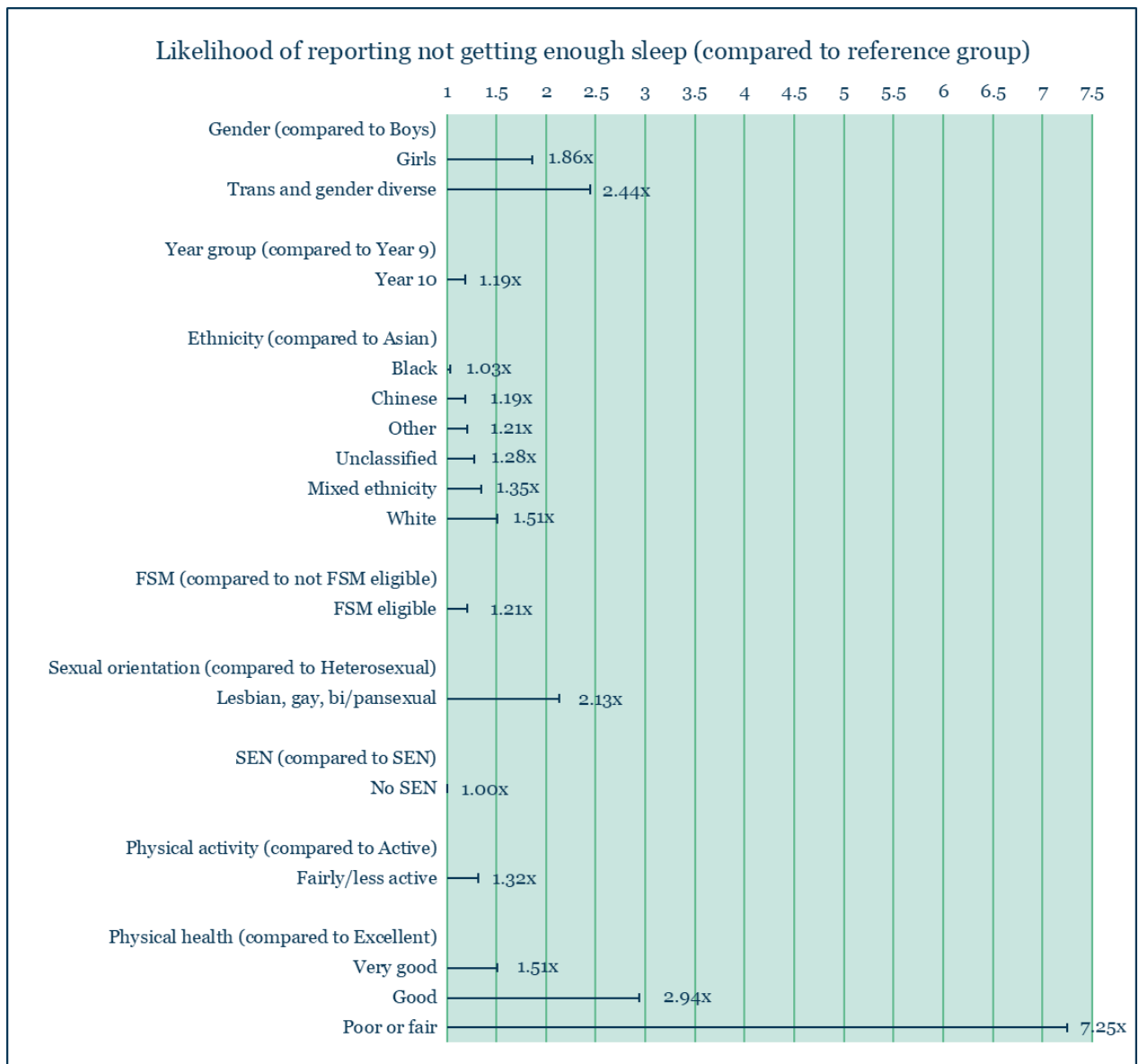
Figure 3: Percentage of young people in Year 10 getting enough sleep in Greater Manchester in 2021 and 2022 (#BeeWell).



2. Inequalities in sleep quality

Figure 4 depicts our analysis¹ of inequalities in sleep quality among different groups of young people (e.g. gender, year group, ethnicity). In each case, we use the group with the highest proportion reporting that they get enough sleep as the main source of comparison (the reference group) for simplicity. We then report how much more likely other groups are to report not getting enough sleep, via odds-ratios. An odds-ratio at or around 1 means that the comparison group is no more or less likely to report not getting enough sleep than the reference group. SEN is a good example of this: young people with SEN are no more or less likely to report not getting enough sleep than young people without SEN (odds-ratio of 1.00x). By contrast, with regard to gender, boys are the group reporting the best sleep quality, and we can see that girls and trans and gender diverse young people are 1.86x and 2.44x more likely, respectively, to report not getting enough sleep. Similarly, in relation to physical health, young people who report that their health is poor or fair are 7.25x more likely to report not getting enough sleep than those who report their health as excellent.

Figure 4: Inequalities in sleep quality among different groups of young people in Greater Manchester (#BeeWell total annual survey sample, 2022).



3. The relationship between sleep and wellbeing

Figures 5-7 depict the relationship between sleep quality and each of our three key wellbeing indicators: life satisfaction, mental wellbeing, and negative affect (for example, feelings of sadness and worry; also referred to as ‘internalising symptoms’).

Figure 5: Life satisfaction of young people getting and not getting enough sleep (#BeeWell total annual survey sample, 2022).

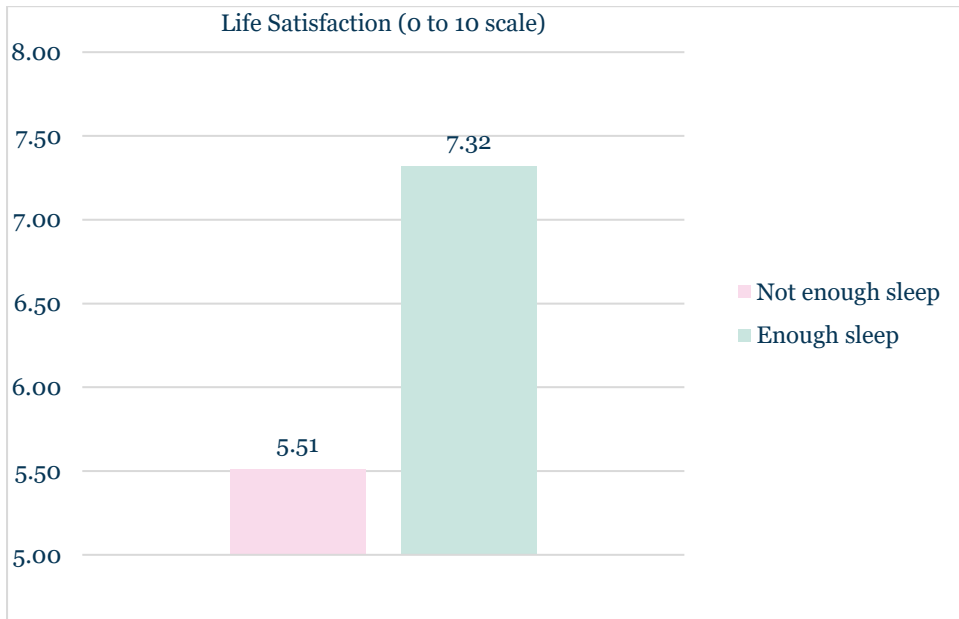


Figure 6: Mental wellbeing of young people getting and not getting enough sleep (#BeeWell total annual survey sample, 2022).

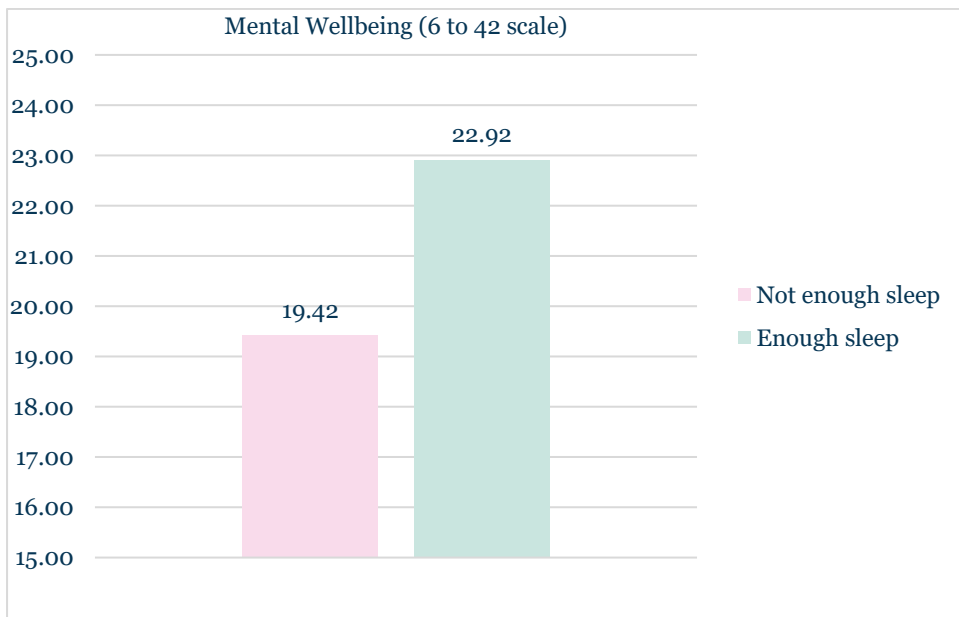
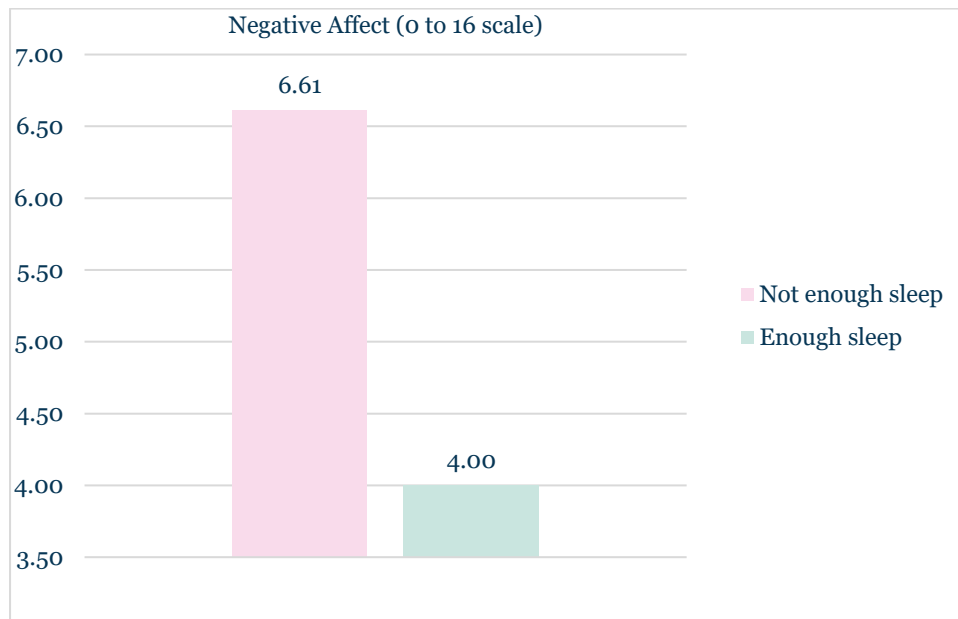


Figure 7: Negative affect of young people getting and not getting enough sleep² (#BeeWell total annual survey sample, 2022).



In each case, the differences in wellbeing between young people reporting that they get enough sleep and those who do not are statistically significant³, and large enough to be considered noteworthy. The standardised mean differences are 0.80 S.D., 0.76 S.D., and -0.69 S.D., for life satisfaction, mental wellbeing and negative affect, respectively. These findings are remarkably consistent across outcomes and mean that getting enough sleep (as opposed to not getting enough sleep) is associated with between three-quarters (in the case of negative affect and mental wellbeing) and four-fifths (in the case of life satisfaction) of a standard deviation difference in scores. In all cases, young people reporting getting enough sleep report higher levels of wellbeing. However, it is important to note that the relationship between sleep and wellbeing is likely to be reciprocal (i.e., getting enough sleep may increase your mental wellbeing, but experiencing higher levels of mental wellbeing may increase the likelihood that you sleep well).

Recommendations

1. Prioritise the promotion of sleep quality among young people in Greater Manchester

Our data indicates that nearly half of all young people in GM do not get enough sleep to feel alert and concentrate on schoolwork during the day. It is important that they are empowered with the knowledge, practices and benefits of good sleep habits, in addition to raising awareness of the immediate and longer-term consequences of sleep deprivation. With this in mind, the Mental Health Foundation provides an information pack for schools to promote good sleep habits (see [here](#)); Mind has resources designed for young people (see [here](#)), and, The Sleep Charity has advice and resources to help children and young people improve their sleep (see [here](#)).

There are also some free applications (for example, [Smiling Mind](#)) for those who have access to smartphones.

2. Address inequalities in sleep quality for young people in Greater Manchester

There are clear disparities in sleep quality among different groups of young people in GM. In order to enact Recommendation 1 above effectively, we need to better understand, and subsequently address, the conditions that lead to certain groups reporting very low levels of sleep quality. Our analysis (see Figure 4) indicates that young people in poor physical health, who identify as trans and gender diverse, or are lesbian, gay or bi/pansexual, are the most 'at risk'. Each of these groups are more than twice as likely to report not getting enough sleep than their peers. We need to know more about the factors that influence their poor sleep quality so that bespoke, targeted resources and strategies can be implemented as appropriate.

3. Celebrate the wellbeing benefits of sleep

There is a remarkable association between young people's sleep quality and their wellbeing. Speaking with young people from the #BeeWell Youth Steering Group, we've explored what these findings on sleep mean to them. They reported how difficult they find it to do everything that they need to look after their own wellbeing within the average week, and the impact this can have on their sleep quality. The Youth Steering Group worked with us to create a resource on defining wellbeing and finding the balance, which can be downloaded [here](#).

4. Advice for parents and carers

Teenage sleep works differently to that of children and adults, so taking the time to understand their sleep requirements can help you to better support your teenager promote their sleep quality (see [here](#)). Some recommendations of things you can try from an expert in sleep hygiene, Dr Mike Farquhar (consultant in sleep medicine at Evelina London Children's Hospital), include: being understanding about the fact that they might go to sleep later in the evening; limiting screen use in the hour before bed; and, encouraging regular exercise. More tips can be found [here](#).

Endnotes

1 We ran a logistic regression analysis, using our sample characteristics as predictor variables and physical activity level as our outcome variable. Logistic regression enables us to estimate the strength of association between a 'binary' outcome (enough sleep/not enough sleep) and a set of explanatory variables (e.g., SEN, ethnicity). These are expressed as odds-ratios (e.g. 'the odds of young people with characteristic X getting enough sleep are 3.5 times greater than young people with characteristic Y').

2 In this analysis, we removed two somatic items referring directly to sleep from the Me and My Feeling measure, in order to avoid inflated estimates of the relationship between sleep quality and negative affect. Hence, total scores are from 0-16 rather than the usual 0-20.

3 When comparing groups for a given outcome, the statistical tests we run provide something called a 'p value'. This tells us how frequently, if we ran our study again many times, we would get data as extreme (or more extreme) than the data we have, if there is no actual difference in the population. It is expressed as a percentage (e.g. 0.08 = 8%). If the p value is small enough (normally less than 5% from a very large number of hypothetical results – hence ' $p < .05$ '), the finding is considered to be statistically significant. This means that the result is therefore considered unlikely to be the result of random noise. That said, very large samples such as that used here lead to increased test sensitivity. This means that some statistically significant results can emerge where the actual magnitude of difference between groups is not meaningful. As a result, our main emphasis in our interpretive commentary is on the size of the difference.