

Quality of life ratings of unfamiliar disabilities: the contribution of a focusing illusion and failure to predict adaptation

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Abstract

Background

40 People often overestimate the hedonic impact of events, thinking for example that bad events
will make them feel worse than they actually end up feeling. Such mispredictions may
contribute to discrepancies between the quality of life of people with chronic disabilities, and
public estimates of what their quality of life would be if they had similar disabilities. We explore
two possible causes of this discrepancy: That people overestimate the hedonic impact of chronic
disabilities because of 1) a focusing illusion, and or 2) a failure to adequately consider
45 adaptation.

Study 1: Focusing Illusion

We elicited general public quality of life estimates of two chronic disabilities – paraplegia or
below the knee amputation (BKA). We tested three methods of “defocusing” subjects, to see
50 whether such efforts would reduce the impact that a focusing illusion has on their quality of life
estimates. We hypothesized that such defocusing methods would raise people’s quality of life
estimates: After reducing the focusing illusion, people would reduce their estimate of how
much the disability would affect their quality of life.

55 One defocusing task involved asking people to imagine how the disability in question would
effect eight concrete life events, such as paying “bills and taxes” and “reading or watching TV or
movies.” Another defocusing task asked people to list those things that took up the largest
amount of their time on the previous day and then indicate how much the disability in question

would impact those things. A third defocusing task asked people to specifically think about not
60 only about things that would be made worse about the disability in question, but things that
would be unchanged and things that would be better because of the disability. For each of the
three defocusing tasks we asked subjects to either to estimate the quality of life before and after
the defocusing task, or only after the defocusing task.

65 Across 852 subjects, and six questionnaires, we found no significant increase in people's quality
of life estimates of either disability after any of the three defocusing tasks.

Study 2: Adaptation

70 In a separate group of 179 subjects, we measured the effect that an adaptation exercise would
have on people's quality of life estimates. The adaptation exercise asked people to consider a
number of ways they might adapt to a chronic disability, and also to reflect on previous life
experiences that were emotionally difficult and comment on how that experience changed over
time. Subjects were asked either to rate the quality of life with paraplegia before and after this
75 adaptation exercise or only after the exercise.

Across both groups of subjects, quality of life estimates of paraplegia were increased after the
adaptation exercise. The within subjects group, who rated paraplegia before and after the
exercise, increased their quality of life estimates by four and a half points, on a 100 point scale (p
80 = 0.003). Subjects who provided ratings only after the exercise provided ratings that were 15
points higher than the pre-exercise ratings of the other group ($p < 0.001$).

Conclusions

85 We find no evidence that “defocusing” subjects influences their quality of life estimates of unfamiliar disabilities. This suggests that to the extent that the public mispredicts the hedonic impact of chronic disabilities, attempting to avoid a focusing illusion may not be a fruitful approach. By contrast, a brief adaptation exercise significantly increased people’s quality of life estimates of paraplegia. People seem to recognize that emotional effect of negative events
90 dissipates over time.

Predicting how we will feel about future events is an important part of everyday decision making. In the short run, being able to predict future feelings helps one select an appropriate meal at a restaurant, or to decide whether to attend a highbrow film or an action-adventure comedy. In the long run, correctly predicting future feelings helps one decide whether to take an attractive job offer in a cold weather location or a less attractive offer in a milder climate. Studies show, however, that people frequently mispredict their feelings about future events. More specifically, people overestimate the hedonic effect of events thinking good events will make them feel better, and bad events worse, than is actually the case. For example, college professors overestimate how happy they will feel if they receive tenure,[1] and football fans overestimate how happy they will be after their team wins a game.[2]

This overprediction of the hedonic effect of events suggests a possible explanation for a number of studies documenting discrepancies between the self-reported quality of life of patients with chronic disabilities and the quality of life estimates of the general public (asked to imagine that they have these disabilities). In these studies, patients report that their quality of life is significantly better than the public estimates it would be. For example, Sackett and Torrance found that the general public estimates the health related quality of life (HRQoL) of dialysis at a value of 0.39 (on a scale from 0 for conditions as bad as death to 1 for perfect health), whereas dialysis patients estimate their HRQoL at 0.56.[3] Boyd et al. found that patients without colostomies estimate the HRQoL of living with a colostomy at 0.80, while patients with colostomies rate their own HRQoL at 0.92.[4] A similar discrepancy has been seen between rheumatoid arthritis patients and the general public.[5] Although a number of factors may

contribute to these discrepancies, it seems plausible that they are due at least in part to the public
115 overestimating the negative hedonic effect of disability.

Two major explanations have been advanced for why people over predict the emotional impact
of future events. Some have attributed these overpredictions at least in part to a focusing illusion:
When anticipating future events, people focus disproportionately on those things that would
120 change in the future while ignoring those things that would remain the same. For example,
students in both California and the Midwest predict that they would be significantly happier
living in California than in the Midwest. This prediction correlates strongly with how important
they feel weather is to their quality of life.[6] Yet no significant difference in happiness is found
between these two groups of students, suggesting that they focus disproportionately on the
125 impact of weather on their quality of life.

A second explanation for overpredictions is that people fail to consider how they will emotionally
adapt to changes in life circumstances.[7, 8] Emotional adaptation occurs in various forms. For
example, people often make active, voluntary efforts to adjust to misfortune by finding new
130 sources of happiness, reducing their expectations of what they need to be happy, finding positive
meaning in their adverse experience, and so on. In addition, even without intentional efforts to
cope, the intensity of emotional responses diminish over time. The death of a spouse is painful,
but over time, surviving spouses usually return to their baseline emotional states. The same goes
for happy events. A new car is enjoyable for several months, and then life returns largely to
135 normal. Yet, despite many experiences with strong emotions that fade over time, people forget

to consider this characteristic of emotions when predicting their long-term happiness following good or bad events.

In an earlier study, we explored whether a focusing illusion contributes to general public quality
140 of life estimates of disabilities.[9] We explored the focusing illusion first because of recent
evidence that it contributes to miscalculations. We asked subjects to estimate the quality of life of
either paraplegia, below the knee amputation, or partial blindness. Then we attempted to
“defocus” subjects by having them reflect on the impact of these disabilities on a wide range of
life domains. We felt that this defocusing task would keep people from thinking too narrowly
145 about the life domains affected by the disability. For example, we asked people to think about
how such a disability would affect their family life, assuming that for most, it would have little
effect. Our study provided no evidence that a focusing illusion causes the general public to
overestimate the emotional impact of these three disabilities. Instead, we found that the more
people thought about these disabilities, the more likely they were to think that the disabilities
150 would have an adverse impact on their quality of life.

The results just described conflict with the results of studies by other investigators that appear to
demonstrate the existence of a focusing illusion in other domains. There are two possible
reasons for this conflict. First, it is possible that our subjects’ ratings were affected by a focusing
155 illusion, but we failed to detect it because our defocusing task was ineffective. If this is true,
then we should be able to demonstrate a focusing illusion by using a “proven” defocusing task
(i.e., one similar to those used in studies that have demonstrated a focusing illusion in other
domains). Second, it is possible that the focusing illusion exists only for some types of events

and not others. If this is true, then no focusing illusion will be detected even when a “proven”
160 defocusing task is used.

In this paper, we report on several additional studies that extend our previous work. In Study 1,
we attempt three other defocusing methods, all of which were suggested to us in correspondence
with authors who have demonstrated a focusing illusion in other studies. Once again, however,
165 we fail to find that a focusing illusion causes people to overestimate the impact of chronic
disabilities on their quality of life.

If the public’s estimates of the effect of disabilities are not affected by a focusing illusion, then
the question remains as to why studies have found a discrepancy between public and patient
170 ratings of the quality of life associated with disabilities. One possible reason, as suggested
earlier, is that members of the public fail to adequately consider the extent to which they would
adapt to disability. If this is the case, then reminding people about adaptation might reduce their
tendency to over predict the effect of disability. In Study 2, we explore whether asking people to
think about adaptation influences their evaluations of chronic disabilities. We ask people to
175 estimate the quality of life of paraplegia or below the knee amputation before and/or after
reflecting on their experience adapting to previous setbacks. We find that people reduce their
estimate of the emotional impact of these chronic disabilities after they have been asked to
consider adaptation. This suggests that, to the extent that the general public overestimates the
emotional impact of illness or disability, such misestimates can be better avoided by having
180 people consider adaptation than by trying to have them avoid a focusing illusion.

Distinguishing between a focusing illusion and a failure to predict adaptation

185 Before presenting our research methods and results, it is important to clarify how we distinguish between a focusing illusion and failure to consider adaptation. A focusing illusion is the failure to appreciate that not all life domains or life events will be equally affected by a given change in circumstances. For example, when considering the impact of paraplegia on their quality of life, people may fail to consider that paraplegia will not affect their ability to enjoy a good television show, a pleasant conversation, or a dinner with family and friends. This usage of what
190 constitutes a focusing illusion is consistent with how others have defined the phenomenon. For example, Schkade and Kahneman described a focusing illusion as follows: “When a judgment about an entire object or category is made with attention focused on a subset of that category, a focusing illusion is likely to occur, whereby the attended subset is overweighted relative to the unattended subset” (p. 340). In addition, Wilson et al. (who refer to this phenomenon as
195 “focalism”), define focalism as a process “whereby people focus too much on the occurrence in question (termed the focal event) and fail to consider the consequences of other events that are likely to occur” (p. 822).[2]

200 By contrast, a failure to consider adaptation is the failure to appreciate the fact that one’s *emotional response* to the given change in circumstances will diminish over time. To appreciate adaptation, it is not sufficient simply to estimate what will happen to one’s life as a result of the change in circumstances; it is also necessary to have some degree of insight into a set of dynamic psychological processes, some of which are involuntary, that produce a change in the relationship between what happens and how one feels. Anyone who has read a description of

205 paraplegia should recognize that paraplegia does not affect his or her ability to enjoy a good television show. However, they may fail to consider that the grief they will feel upon finding out that they have become paraplegic will subside over time and that the sense of loss that they feel because they have to abandon favorite pastimes will be replaced by the joy they feel in other pastimes.

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Study 1: Further exploration of the role of a focusing illusion in disability ratings

In our previous study, we asked people to estimate the quality of life they would experience if they had paraplegia, below the knee amputation (BKA), or partial blindness. Some subjects
215 provided quality of life estimates both before and after a defocusing task, whereas others provided estimates only after the defocusing task. In some questionnaires, this task consisted of asking people to imagine how the disability in question would affect a set of prespecified life domains, illustrated in the following example:

220 How much do you think having a below-the-knee amputation would affect: (a) Your overall health?; (b) Your standard of living?; (c) Your work?; (d) Your love life?; (e) Your family life?; (f) Your social life?; (g) The spiritual side of your life?; (h) Your leisure activities, such as hobbies, pastimes, travel, and entertainment?

225 In other questionnaires, we presented subjects with an open-ended defocusing task. First, before presenting the description of the health condition to be rated, we asked subjects to generate a list of five activities and pastimes important to them. Then, after an initial rating of the health

condition, these subjects were asked to consider how that condition would affect each of the five life domains they specified. We found no evidence that a focusing illusion has an aggregate
230 effect on people's disability ratings. Instead, average disability ratings after the defocusing tasks were either unchanged or lower than subjects' baseline ratings (with lower ratings reflecting worse quality of life).

In correspondence, several investigators who have demonstrated a focusing illusion in other
235 domains questioned whether our previous study used appropriate defocusing methods.

Specifically, the life domains used in our defocusing task did not involve the type of "concrete events" that some of these authors say contribute to the focusing illusion. By asking people to consider broadly defined life domains, we might have created a focusing illusion within each domain. For example, when asked to consider how paraplegia affects family life, people might
240 have considered only how it would *detrimentally* affect family life, while failing to consider obvious ways in which it would have no impact on family life (or even ways it might improve family life).

Through discussions with these investigators, we developed three new defocusing tasks. The
245 first asks people to think about concrete life events rather than vague life domains. For example, rather than asking people how paraplegia would affect their social life, we ask how it would affect their experience of a conversation with a good friend. The second defocusing task asks people to think about concrete events in proportion to the time they spend experiencing these events. For example, a focusing illusion might occur if people think about how paraplegia
250 affects their ability to play tennis, despite only playing tennis two hours a week. If instead,

people are asked how they spend most of their time, they should recognize that paraplegia will have little effect on many common activities. (This defocusing task resembles the diary used by Wilson et al. to defocus football fans.) The third defocusing task asks people to think concretely about life events that would be worse, unchanged or better after becoming disabled. This
255 defocusing task avoids encouraging people to focus disproportionately on those life events that are made worse by having a disability.

In Study 1, we explored how these three new defocusing tasks influence subjects' ratings of paraplegia or BKA.
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Study Subjects

Subjects were prospective jurors in the Philadelphia County courthouse, who are selected from voter registration and drivers' license records. All subjects were recruited by announcing in the
265 juror waiting room that anyone who filled out a survey would receive a candy bar.

Construction of the new defocusing tasks

Concrete Events Questionnaire

270 To generate a list of concrete events for people to consider in the defocusing task, we surveyed prospective jurors in Philadelphia and asked them to list common life events that caused them small amounts of happiness, large amounts of happiness, small amounts of unhappiness, or large amounts of unhappiness. To prevent subjects from being aware of our purpose for developing

such a list, the questionnaire made no mention of any health related disability, and was not
275 presented in connection with any other studies that we were doing. The research team then read
through the events and ranked them according to the frequency with which they were mentioned.
(We counted only those events that we deemed to be concrete, for example, “reading a book” as
opposed to more general events like “social life.”) We then created a list of the four most
common good events and the four most common bad events. This list was included in the new
280 questionnaire (administered to a separate set of subjects from those who generated the list).

In the new questionnaire, we first asked subjects to consider what it would be like to have the
disability in question (either BKA or paraplegia), and then to think about how the disability
would affect their experience of the eight concrete events, as illustrated below:

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When people first think about a disability, it might seem pretty catastrophic. But many
disabled people are surprised to find that many aspects of their life remain relatively
unaffected. Of course, this depends on the nature of the disability and the particular person
involved.

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We are interested in knowing your thoughts about how certain aspects of your life might be
affected by this condition. Here are some questions about how your life would change if you
had paraplegia. Please think carefully about what your life would really be like and answer as
honestly as you can.

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If you had paraplegia, what would your experience of these things be like compared to now?

Visiting with friends and/or family
Paying bills and taxes
Vacation and travel
300 Getting caught in traffic
Physical recreational activities
Arguing with family and/or friends
Reading and/or watching TV or movies
Coping with death and/or illness in family

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For each of the eight events, subjects were asked to state what their experience of these things would be like on a scale ranging from -3 (much worse than now) to +3 (much better than now).

Time Weighted Questionnaire

310 In this questionnaire, before any mention of either disability, we asked subjects to write down five events that took up the largest amount of their time on the preceding day:

315 Think about the past day, starting from when you woke up yesterday to when you woke up this morning. What did you do yesterday? In the spaces provided, we would like you to list the things that took up the most amount of time from yesterday when you woke up to today when you woke up.

We then asked subjects to imagine how these five activities would be affected if they had the disability in question, on the same seven-point scale described above. This defocusing task was

320 similar to that used by Wilson et al., who defocused college football fans by having them write
out a diary of how they would spend time in the week following the game.[2] We felt that this
activity would defocus subjects by getting them to think about mundane and routine aspects of
life that would be unaffected by a disability.

325 *Changes for Better or Worse Questionnaire*

In this questionnaire, after asking people to think about the disabilities, we asked them to list
aspects of their life that would “probably change for the worse,” “not change at all,” or “probably
change for the better” if they had the disability. Unlike the defocusing tasks previously
described, this task explicitly instructs subjects to defocus – to attend to things that would not be
330 affected.

Study design

We randomly assigned subjects to receive one of twelve questionnaires. The questionnaires
335 varied according to which defocusing task was used (concrete events, time weighted, or change
for better or worse), which disability the subjects were asked to rate (paraplegia or BKA), and
whether they rated this disability before and after the defocusing task or only after. The study
design is shown in Table 1.

340 For subjects who rated the disability both before and after defocusing, we performed paired t-
tests to see whether their ratings changed significantly. We recognized the possibility that these
subjects might anchor on their initial rating and therefore fail to exhibit defocusing. To address

this, we performed independent-samples t-tests comparing the post-defocusing ratings of subjects who gave only post-ratings to the pre-defocusing ratings of subjects who gave both.

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Results

Eight hundred and fifty-two subjects completed a questionnaire. Their average age was 41.5 (sd = 12.8). Their average number of years of education was 14.3 (sd = 2.6); 67% were female, 44% were African-American, and 50% were Caucasian.

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If, as we hypothesized, a focusing illusion was causing subjects to overestimate the emotional impact of the given disabilities, their quality of life ratings should increase after the defocusing tasks. As shown in Table 1, however, asking subjects to think about the effect of these disabilities on concrete life events did not increase their estimates of the quality of life of either disability. Those who rated the disabilities both before and after the defocusing task did not significantly change their ratings ($p = .39$ and $.07$ for paraplegia and BKA respectively).

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Similarly, the post-defocusing ratings of those who gave only post-ratings did not differ significantly from the pre-defocusing ratings of those who gave both ($p = .09$ and $.30$ for

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paraplegia and BKA respectively). It may be noted that, although two of the four comparisons just described approached statistical significance, the one that was not subject to anchoring went in the direction opposite to our hypothesis.

Similar results occurred for the time-weighted questionnaires. Subjects who rated the disabilities both before and after the defocusing task did not significantly change their ratings ($p = .59$ and

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.60 for paraplegia and BKA). Those who gave ratings only after the defocusing task provided slightly lower quality of life estimates than did subjects who provided ratings before the task, although these differences were not statistically significant ($p = .22$ and $.08$ for paraplegia and BKA).

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Subjects who received the change for better or worse questionnaires and rated the disabilities both before and after defocusing also did not significantly change their ratings ($p = .09$ and $.31$ for paraplegia and BKA). The post-defocusing ratings of those who gave only post-ratings did not differ significantly from the pre-defocusing ratings of those who gave both ($p = .20$ and $.56$ for paraplegia and BKA). The sample size for these questionnaires is larger than for others in Study 1, because early evidence showed a trend toward increased health state ratings after this defocusing task. We wanted to see if this trend would turn out to be significant.

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Discussion

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The results of Study 1 corroborate the findings of our previous research. Exercises designed to reduce the focusing illusion either have no aggregate effect on subjects' ratings of the quality of life associated with paraplegia and BKA, or actually cause subjects to give slightly lower ratings than they otherwise would. This is true even for defocusing tasks incorporating suggestions made by researchers who have found evidence of a focusing illusion in other domains, and even for a task that explicitly instructs subjects to consider aspects of life that would remain unaffected by the disability. This suggests that, with respect to these disabilities at least, a focusing illusion either does not occur or is virtually impervious to change.

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390 **Study 2: Are disability ratings influenced by failure to adequately consider adaptation?**

The results of Study 1 suggest that if a focusing illusion is influencing aggregate predictions of quality of life after disabilities, then the focusing illusion is difficult to eradicate. Thus, to whatever extent the general public overestimates the impact of disabilities on their quality of life, 395 it is unlikely that trying to reduce a focusing illusion will improve their predictions. This raises the question about whether failure to consider adaptation causes people to overestimate the impact of disabilities on their quality of life.

In this study, we asked people to consider what their quality of life would be like if they had 400 paraplegia. We asked some subjects to estimate the quality of life of paraplegia before and after a series of questions about adaptation. We asked others to estimate the quality of life only after this adaptation exercise.

Subjects

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Subjects were prospective jurors in the Philadelphia County courthouse.

Questionnaire design

410 To get subjects to think about whether they would adapt to the disability in question, we asked them to consider a previous life experience that was emotionally difficult. Then we asked them

to think about whether their emotions changed over time, and whether they ended up feeling worse, about the same, or better than they would have predicted after this experience. In addition, we asked people to think about how they might specifically attempt to adapt to the disability in question. We asked what they would do to adapt physically, what activities they might begin if they had paraplegia, and what they might do to emotionally cope with paraplegia. We then asked whether they thought they would be more or less likely than the average person to cope well with paraplegia. Finally, we asked them whether they thought the experience of paraplegia would become more or less upsetting over time. The specific wording of the adaptation exercise is shown in Table 2.

Results

One hundred and seventy-nine subjects completed a questionnaire. Their average age was 42.7 (sd = 12.6). Their average number of years of education was 14.3 (sd = 2.6); 69% were female, 35% were African-American, and 58% were Caucasian.

Table 3 shows subjects' estimates of the quality of life associated with paraplegia before and after the adaptation exercise. Subjects who provided quality of life estimates both before and after the adaptation exercise increased their estimates, from a mean of 47.0 to 51.6 on the 0-100 scale ($p = .003$). Subjects who provided quality of life estimates only after the adaptation exercise rated the quality of life of paraplegia at 62.2 ($p < .001$ compared to the preadaptation rating of the first group of subjects).

435 Further analysis of responses to the adaptation exercise confirm that peoples beliefs about
adaptation can influence their quality of life estimates. More specifically, we examined
associations between subjects' responses to three closed ended items in the exercise (questions 1,
6A, and 7 in Table 2) and their quality of life estimates, using Spearman correlation's for
bivariate associations and linear regression to examine the combined effect of all three items.

440 Among subjects who rated paraplegia both before and after the adaptation exercise, we explored
the relationship between the change in their quality of life ratings and their responses to these
three closed-ended items. Using the difference between the two quality of life ratings as the
dependent variable; a positive value on this difference score meant that the subject's post-rating
was higher than his or her pre-rating. Responses to two items (about a previous experience that
445 turned out better than predicted, and about a belief that one would be more likely than the
average person to cope well with paraplegia) were not significantly correlated with the difference
score ($r_s = 0.02$ and 0.08 respectively; p 's > 0.40). Belief that paraplegia would become less
upsetting over time, however, was significantly correlated with the difference score ($r_s = 0.30$, p
 $= 0.001$). In the linear regression, responses to these three items explained 8.9% of the variance
450 in the difference score ($F = 3.54$, $p = 0.017$); only the belief that paraplegia would become less
upsetting over time contributed significantly to the model ($p = 0.007$).

In the sample as a whole, we tested for associations between responses to the adaptation items
and *initial* quality of life ratings (before subjects had participated in the adaptation exercise).

455 This analysis allows us to test whether people's initial ratings, uninfluenced by the adaptation
exercise, are nevertheless associated with their beliefs about adaptation. We found strong
correlations between these three closed-ended items and subjects' initial quality of life estimates.

The Spearman correlation of initial ratings with “having had a previous experience” that turned out better than predicted was 0.23 ($p = 0.01$); with the belief that one would be “more likely than the average person to cope well with paraplegia,” was 0.40 ($p < 0.001$); and with the belief that “paraplegia would become less upsetting over time,” was 0.38 ($p < 0.001$). In the linear regression, responses to these three items explained 22% of the variance in initial quality of life ratings ($F = 10.38$; $p < 0.0001$); all three contributed significantly to the model (p 's = 0.035, 0.015, and 0.027 respectively). These results suggest that, even without going through an adaptation exercise, people’s beliefs about the effect of paraplegia on their quality of life are connected with their beliefs about adaptation.

Discussion

Many members of the general public imagine that disabilities are worse than people with those disabilities say they are. This raises the possibility that members of the public overestimate the quality of life impact of certain types of disabilities. We present findings from a series of studies that explore whether people’s quality of life estimates of chronic disabilities will change by making efforts to avoid a focusing illusion or efforts to make people consider how they would adapt to such disabilities. Reinforcing our own early studies, we found no evidence that attempting to minimize a focusing illusion changes the general public’s estimates of the quality of life of chronic disabilities. However, we found evidence that asking people to think about adaptation does affect their quality of life estimates: When asked to think about how they had adapted to adversity in the past and how they might adapt to disability, on average people tend to

estimate that disabilities will have less impact on their quality of life than they would have otherwise estimated.

By no means are we dismissing the role that a focusing illusion could play in people's estimates
485 of unfamiliar disabilities. Some subjects in our first study did increase their quality of life
estimates after the defocusing task. In fact, our earlier published study,[10] we quoted several
examples of people whose written explanations of their disability ratings were consistent with a
focusing illusion. But those people who are either susceptible to a focusing illusion or whose
focusing illusions are moderated by our defocusing tasks are in the minority. They stand in
490 contrast to the majority of subjects who are either uninfluenced by our defocusing tasks or who
upon further reflection about the disabilities in question felt that the disabilities would have an
even *greater* impact on their quality of life than they had first estimated.

These findings have important implications for how best to get people to think about disabilities
495 that they might experience. Patients often need to consider possible disabilities or illnesses when
considering treatment choices. For example, men with prostate cancer have to consider the
effects that incontinence or impotence might have on their quality of life when choosing among
treatments that have different probabilities of leading to these side effects. It would be useful to
come up with ways to improve people's abilities to estimate how illness and disability will affect
500 their overall quality of life. If we had found that focusing illusions were easily eradicated, then
one or another of our defocusing tasks could have been a useful way to get people to think about
unfamiliar health states. As it stands, however, defocusing does not look promising.

On the other hand, evidence suggests that a more fruitful approach to helping people consider the effect of illness and disability on their quality of life is to get them to think about how they might adapt to such adversities. In Study 2, of the 123 subjects who rated paraplegia both before and after the adaptation exercise, 45 (36.6%) increased their ratings, as opposed to only 11 (8.9%) whose ratings decreased; 33 (26.8%) increased their ratings by 10 points or more, and 18 (14.6%) increased by 20 points or more.

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What does our study say about previous research that has demonstrated a focusing illusion in other domains? Were college students' overpredictions of their quality of life in a different region actually examples of failure to consider adaptation? We do not necessarily think so. It is highly likely that failure to consider adaptation played some role – for example, if Midwestern students were asked to imagine how they might grow accustomed to California weather over time, they might moderate their estimates of how much happier they would be in California. But a focusing illusion and failure to consider adaptation are not mutually exclusive and it is likely that people are more susceptible to focusing illusions in some domains than in others. Chronic disabilities like paraplegia and below the knee amputation differ dramatically from football games and sunny afternoons. Paraplegia has a significant chronic affect on one's life in a way that a football victory does not. It might be that focusing illusions are more likely to occur in more transient domains or in domains, such as weather, that have a smaller hedonic impact than a chronic disability.

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525 Did any of our defocusing tasks or adaptation exercises improve quality of life ratings, in the sense of making them more accurate? This is a question beyond the scope of the current study.

There is no gold standard for measuring the quality of life. Even quality of life self-reports of people with disabilities are suspect because those ratings could be susceptible to cognitive dissonance, response shifts and other factors. Instead, our study had a more limited goal – to see
530 whether people’s estimates of the hedonic impact of disabilities would be reduced by defocusing them or making them consider adaptation.

Table 1

Study 1 Results: Disability ratings before and after defocusing tasks

Defocusing task: Think about impact of the disability on ...	Questionnaire	Disability being rated	n	Mean (s.d.) Quality of Life Rating*		P value◇
				Before defocusing task	After defocusing task	
Concrete events (e.g., visit family and friends, pay bills ...)	Q1	Paraplegia	50	53.7 (27.2)	55.3 (26.2)	vs. Q1: 0.39
	Q2	Paraplegia	51	--	45.1 (23.7)	vs. Q1: 0.09
	Q3	BKA	53	71.5 (19.6)	72.6 (19.1)	vs. Q3: 0.07
	Q4	BKA	50	--	67.0 (24.0)	vs. Q3: 0.30
Time weighted daily events	Q5	Paraplegia	57	50.7 (29.2)	49.6 (26.9)	vs. Q5: 0.59
	Q6	Paraplegia	60	--	44.6 (24.9)	vs. Q5: 0.22
	Q7	BKA	53	75.0 (20.7)	73.8 (22.2)	vs. Q7: 0.60
	Q8	BKA	54	--	66.9 (26.9)	vs. Q7: 0.08
Aspects of life that change for better or worse	Q9	Paraplegia	105	52.6 (26.8)	54.6 (27.7)	vs. Q9: 0.09
	Q10	Paraplegia	98	--	57.2 (24.9)	vs. Q9: 0.20
	Q11	BKA	117	74.5 (19.2)	75.4 (17.6)	vs. Q11: 0.31
	Q12	BKA	104	--	72.9 (21.6)	vs. Q11: 0.56

* Disabilities were rated on a scale from 0, for quality of life as bad as death, to 100, for quality of life as good as perfect health.

◇ When compared to the same questionnaire version, this is a paired t-test. When compared to another questionnaire version, it is an independent samples t-test comparing the disability rating after the defocusing task from one group compared to the before task rating in the other group.

Table 2

Study 2: Adaptation Exercise

Now that you have thought a little about paraplegia, we would like to ask you some more questions about how paraplegia might affect your life. To help you with that, we first will ask you to think about how you have lived through past upsetting events.

1. Think back and write down one emotionally difficult life experience that happened to you (e.g., divorce, break up with a significant other, loss of loved one, setback in school or work). Please make sure to think about an experience that occurred at least six months prior to now.

Immediately after this emotionally difficult experience, you probably felt pretty awful. But, think about the six months following the event. Concentrate on how you felt at the end of that six month period. How had your emotions concerning this event changed? Please explain.

At the end of those six months, would you say that you felt much worse, felt about the same, or felt much better than you would have predicted immediately after it happened?

1	2	3	4	5
I felt <i>much worse</i> than I would have predicted.	I felt <i>about the same</i> as I would have predicted.			I felt <i>much better</i> than I would have predicted.

2. When thinking about a disability like paraplegia, it might seem pretty traumatic to consider how your life would change. What two things would be most upsetting to you about becoming paraplegic?

3. Although some aspects of your life will become more difficult, there are ways to make your daily life a little easier. List two things that would help you to adapt physically if you had paraplegia? (For example, if you lost your eyesight, you could learn Braille, use a cane, and/or employ a seeing eye dog to help with your everyday activities.)

4. Having paraplegia would certainly interfere with some athletic activities, but many people with paraplegia maintain an active lifestyle by either changing the way they participate in activities or engaging in entirely new ones. List two athletic activities that you might start doing (or do differently) if you had paraplegia.

5. Similarly, some current hobbies might become impossible to do. However, you might concentrate on other ones you can still do or pick up new activities. List two non-athletic activities (such as hobbies or leisure activities) that you might start doing (or doing more) if you had paraplegia.

6. Just as there are ways to help you to adapt physically to paraplegia, there are also ways to help handle the immediate and long-term emotional reactions. List two strategies that you would use to emotionally cope with being paraplegic.

6a. Compared to the average person, do you think you would be more or less likely to cope well with having paraplegia?

1	2	3	4	5
<i>Much less</i> likely than others to cope well		<i>Equally likely</i> as others to cope well		<i>Much more</i> likely than others to cope well

7. After answering the above questions and having a chance to think about how your life would change, please think about the two most upsetting things about becoming paraplegic (Question #2). Do you think these two things would become more or less upsetting over time?

1	2	3	4	5
<i>Much more</i> upsetting over time		<i>Equally as</i> upsetting over time		<i>Much less</i> upsetting over time

Table 3**Study 2: Paraplegia ratings before and after being asked to think about adaptation**

Questionnaire	N	Mean (s.d.) rating* before considering adaptation	Mean (s.d.) rating* after considering adaptation	P value
Q1: Paraplegia rating before and after considering adaptation	123	47.0 (27.3)	51.6 (27.2)	vs. Q1: .003
Q2: Paraplegia rating only after considering adaptation	56	--	62.2 (19.7)	vs. Q1: < .001

* Rating of the quality of life associated with paraplegia, on a scale from 0, for quality of life as bad as death, to 100, for quality of life as good as perfect health

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