World Psoriasis Happiness Report 2017.

Health & Happiness Foundation

Happiness Research Institute

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Foreword

Steven Feldman, triple appointed professor in Dermatology, Pathology, and Public Health Sciences at Wake Forest University North Carolina USA, and appointed honorary Professor in Dermatology at University of Southern Denmark. Feldman directs the Center for Dermatology Research at Wake Forest University, a health services research center dedicated to improving the care of patients with skin disease. His chief clinical interest is psoriasis, and he has chaired and developed several educational initiatives to improve the care for patients with psoriasis e.g. chaired the American Academy of Dermatology's Psoriasis Education Initiative Workgroup, developing regional courses on emerging psoriasis therapies. He has published more than 800 articles in peer-reviewed journals, and is a current editor or a member of the editorial board of six dermatology journals.

This is a fascinating report on happiness among people with psoriasis. With over 100,000 subjects from around the world, this work provides broad insights into the impact of psoriasis.

One critical finding is that the impact of psoriasis on happiness, not surprisingly, is enormous. The impact can be as much as three times larger than the impact on happiness of having high income compared to low income. The impact is high across all demographics, and, again not surprisingly, subjective impact is greater in patients with worse objective disease.

Humans are moved more by anecdote than by data. The study's qualitative reporting of patients' perceptions is moving in ways that a 30% reduction in happiness cannot convey. One of the most bothersome aspects of psoriasis, as identified by these patients, is that they perceive that health care professionals do not understand the impact of the disease. Reading this report can help physicians better understand the impact of psoriasis on patients' lives. More important than that, however, is not just to understand the impact - as many physicians already do - but to communicate to patients that the physician understands. Doing so may be one of the best, most immediate ways to reduce patients' distress, to encourage better adherence to treatment, and improve both their objective disease severity and their happiness.

Foreword

John Helliwell, Professor Emeritus of Economics at the University of British Columbia, Distinguished Fellow of the Canadian Institute for Advanced Research, editor of *The World Happiness Report* (with Richard Layard and Jeffrey Sachs)

This study, and the ideas and organisations behind it, are path-breaking applications of happiness research to support better lives for all, and especially for those most in need. I see at least six signal achievements, all of which offer examples for others to follow.

First, the authors of this report have seen the value of creating information on the extent and human consequences of psoriasis, using well-being surveys of more than 120,000 respondents in 184 countries. By collecting well-being data comparable to those available for the broader population, the study team is able not only to provide an estimate of the human consequences of the condition, but to show which aspects of life are most affected by the condition, and how much their happiness is thereby affected.

Second, the results show quite clearly how much the happiness effects of the condition depend on its impacts on the social lives of sufferers, via increased loneliness and stress. By using life evaluations as a basis for comparison, the study is able to show that pain and physical discomfort are less damaging than loneliness. This in turn suggests there might be new ways to help improve the lives of people with psoriasis.

Third, the platform creates opportunities among psoriasis sufferers to learn from the experiences of other people living with psoriasis. Learning that they are not the only ones coping with psoriasis may not only reduce stress and loneliness in their own right, but can help those with psoriasis to devise new strategies for educating and engaging more positively with each other.

Fourth, this report will itself help to educate the public at large about the extent, nature and consequences of psoriasis. This should help to quell false fears as well as to fuel greater awareness of the importance of acceptance, and of reaching out to those who look different.

Fifth, the global scope of the study helps to build peer-to-peer connections that help in turn to create broader international trust and understanding while at the same time enabling the faster and broader spread of good ideas.

Finally, the study convincingly shows how the general aim of improving lives can be converted to reality through a focus on specific circumstances. If one size cannot fit all, then lives need assessing and improving in ways that differ among individuals, cultures, and conditions. The aim is not to give priority for one group over another, but to better understand what can most readily be done to improve lives for each, and for all. Since most of these innovations improves lives even more for those in distress, they also help to reduce well-being inequality and hence increase average happiness even more.

Foreword

Andrew Y Finlay, Professor of Dermatology at Cardiff University, Cardiff, UK, has led research in quality of life in dermatology over the last 30 years. He is joint developer of the Dermatology Life Quality Index and several other quality of life outcome measures used extensively in dermatology.

The quest for human happiness has been at the heart of human experience for millennia. Philosophers, novelists, counsellors, psychologists have debated for generations its elusiveness and religious movements propose different routes to achieving happiness. However, the striving for happiness could be counterproductive as happiness may be mainly experienced as a 'by-product' of satisfaction in other aspects of life.

So happiness is not an unexplored field. But hard data is usually lacking. The survey described here, and the very large database created, provide a good starting point to understand the impact of a skin disease on happiness.

The data presented in this massive multinational project is extensive and highly impressive: 120,000 respondents across nearly 200 countries! The project is based on answers to a novel web and app-delivered on-line questionnaire. The contributors were self-selected and were recruited in a variety of different ways. So the project is not really a study, nor even a survey, but it's in a new bracket, 'self-selected app responses'. The distinctive differences in this methodology, compared to other data gathering using self-selected questionnaire responses, is the sheer vastness of the data set and the 'reach' that app technology now allows.

There are many inherent biases, including the obvious one that all the subjects had to have the ability and motivation to participate online. This is very different from prospectively studying a complete cross-section of defined respondents, such as patients with psoriasis. Such objections are apparent from the current standpoint of the evolution of quality evidence gathering for valid scientific exploration. However, these novel data sets perhaps presage a new paradigm in handling and interpretation of epidemiological data. For data gathered in this way to be properly critically interpreted, a new framework of guidelines concerning minimal quality standards may need to be developed for the gathering and reporting of data.

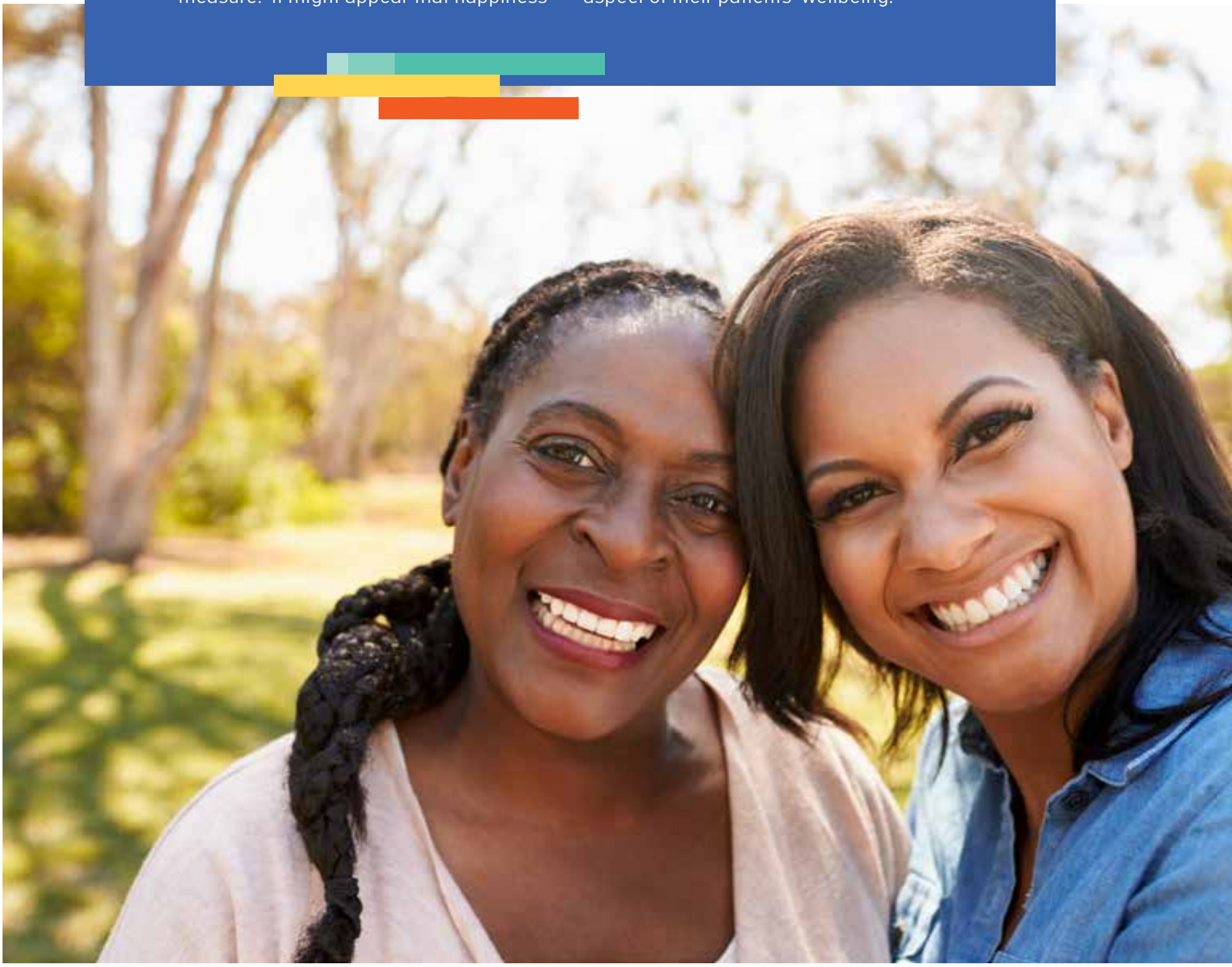
Despite these reflections, the project has revealed many apparent differences across the globe in the perception of happiness by people with psoriasis.

Once obvious basic human needs have been met, factors contributing to happiness may include close relationships with a partner, satisfying work, taking part in cultural activities or having realistic plans, amongst many other things. Living with a 'burden', such as having psoriasis, may not necessarily result in loss of happiness, a multifaceted emotion. Counter-intuitively, having a chronic disease might even add to happiness, for example by increasing the attention of others.

Most people would assume that having a disease such as psoriasis is likely to reduce happiness. Apart from obvious day-to-day reasons, major life-changing decisions may also be influenced, such as decisions over higher education, or choice of partner, with consequent life-long impact on happiness.

Is it really possible to measure happiness? There is a similar debate concerning the related field of 'quality of life': ultimately it is not possible to truly measure such a subjective phenomenon, but it may be possible to quantify some aspects of it, or develop a surrogate measure. It might appear that happiness and quality of life are so closely intertwined that they would be directly and closely aligned. It will be interesting to examine this when the quality of life data also gathered in this project is analysed.

The major strength of this exercise has been to bring focus on the question of 'happiness' in the context of psoriasis research. It may stimulate many research questions that can only be addressed by prospective clinical studies, and should challenge clinicians to consider this aspect of their patients' wellbeing.



Contents.

Chapter / 01

General Insights

Contents.

Chapter /02

Well-being inequality: How can we bridge the psoriasis happiness gap?

Chapter /03

Country differences

Concluding Remarks

Appendix

Executive Summary

The World Psoriasis Happiness Report 2017 aims to shed light on what impacts the subjective well-being - interpreted as happiness - of people living with psoriasis[1]. We received input from 121,800 people with self-reported psoriasis across 184 countries on how living with this chronic illness impacts their well-being.

Our report is built on the *Guidelines for Measuring Subjective Well-being* developed by the Organization for Economic Cooperation and Development (OECD) and looks across a wide spectrum of validated indicators measuring quality of life, such as stress and loneliness.

In 2011, the United Nations passed the resolution on happiness. The same year, the OECD included life satisfaction as a parameter for the development of the member countries. It concluded that subjective well-being measures are valid and reliable and can be used to inform policy makers and citizens.

During the last decade, there's been a global paradigm shift in our understanding of progress. A nation's progress cannot and should not be reduced to gross domestic product (GDP) per capita. Instead, **the ultimate goal of public policies should be to improve quality of life**.

The ten key insights in this report:

1) Psoriasis has an impact on happiness

Our study shows that living with psoriasis impacts people's quality of life across a wide spectrum of subjective well-being indicators. When people report severe symptoms, they also report lower levels of happiness. Using the *World Happiness Report* 2017 as a benchmark, our study shows that **people living with severe psoriasis in some countries report 30% lower levels of happiness** than their fellow citizens.

2) Psoriasis reduces the happiness of women more than men

While both men and women with psoriasis are very much affected physically, emotionally and psychologically, the impact on women is greater. Compared to their countrymen and countrywomen, **men and women living with severe psoriasis report respectively 11.3% and 18.5% lower levels of happiness**. Women consistently reported higher levels of stress and loneliness than men.

3) Different symptoms have different impacts on happiness

The different symptoms of psoriasis - such as scaling, itchiness and trouble walking - have different effects on happiness. While **'scaling' is associated with 11.7% lower happiness levels, 'trouble walking' is associated with 22% lower happiness levels** compared to the average population. This pattern is consistent across the different levels of disease severity.

4) Different affected body areas have different impacts on happiness

Psoriasis on the scalp is associated with a 7.5% happiness gap, while psoriasis on the genitals impacts happiness with a 12.9% happiness gap. This may be because psoriasis on intimate body areas creates physical or psychological challenges in people's love lives.

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[1] As presented in more detail in the report, the diagnosis was self-reported by the participants in the study.

5) Stress is the strongest psychological predictor of unhappiness for people living with psoriasis

We analysed a wide range of factors that impact well-being and found that **stress is the best psychological predictor of unhappiness for people living with psoriasis**. In addition, we find that stress is a non-discriminating factor. It affects people living with psoriasis regardless of demographics, socioeconomic status and disease severity. Furthermore, of all daily emotions and experience - both positive and negative - distress is the most common among people with psoriasis. **60% report feeling distressed in a moderate to extreme degree in their daily life**.

6) Loneliness is widespread among people living with psoriasis

Using the most conservative threshold for loneliness, we find that 33% of all people living with psoriasis are lonely. It affects people regardless of their age, socioeconomic status or disease severity. It is the second strongest predictor of unhappiness after stress.
However, the level of loneliness varies a lot between the different countries **from 21% in Portugal to 48% in the United Kingdom.**

7) Countries vary in the level of well-being inequality due to psoriasis

Our study shows that living with psoriasis has a major negative impact on happiness, well-being and quality of life. Compared to national averages, **people living with severe psoriasis are subject to happiness gaps, from 7.3 % less happy in Portugal to 37.4% less happy in Australia**.

However, the happiness gaps vary a lot, including cases of positive happiness gaps, notably in Portugal and Greece. We have identified **two assumptions that could explain the variation**:

The culture assumption: the countries characterized by small happiness gap are also characterized as collectivistic; correspondingly, the countries characterized by large happiness gap can at the same time be characterized as individualistic.

The social comparison assumption: people with a debilitating condition find it harder to live in an otherwise happy country - explaining the higher prevalence of mental health issues and even suicides in richer and happier regions.

8) Happiness gaps may be reduced by improving the understanding of how psoriasis impacts well-being

Our data suggest that increasing the understanding of how psoriasis impacts well-being - especially stress and loneliness - may take us quite far in bridging the happiness gap.

48% of respondents feel that their healthcare professionals do not fully understand the impact psoriasis has on their mental well-being and experience happiness gaps of 21%. Meanwhile, the 52% who feel that their healthcare professionals do fully understand the impact psoriasis has on their mental well-being only experience happiness gaps of 3%.

9) Up to 35.6% of people with psoriasis can be lifted out of misery by reducing extreme stress

We find that people experiencing stress while living with psoriasis are 23% more likely to be in misery (a happiness score of 0-4) than others.
In theory, if **we could ensure that no person living with psoriasis experienced extreme stress, we could reduce the number of people living in misery by up to 35.6%**. The evidence again suggests that the effects vary between regions. However, it is clear that reducing the most extreme cases of stress can lift many people out of misery in any region.

10) Up to 12.9% of people can be lifted out of misery by reducing extreme loneliness

The prevalence of loneliness and its effects vary between regions. However, the impact of loneliness should not be neglected as **up to 12.9% people with psoriasis can be lifted out of misery by reducing extreme loneliness**.

If we consider loneliness and stress as ‘psychological drivers’, a reduction of these together would lift more people out of misery than anything else – no matter which region we target.

Introduction:

We need to address inequalities in well-being

‘I feel hideous and unattractive. I don’t want to leave the house in the morning. I feel like everyone is secretly repulsed by me. I worry that the psoriasis will never go away. I feel hopeless every time it gets worse.’

These words belong to one of our respondents. She is 23 years old and lives in the United Kingdom. We don’t know her name, but we have decided to call her Julia. We do this to remind ourselves that behind all our data, all our numbers and all our statistics, there are people.

Julia is one of more than 120,000 people from 184 countries who have participated in our study. She’s one of 120,000 people who have told us what it’s like to live with psoriasis and shared their hopes, their dreams, their pain and their isolation. Across the world, millions more people face the physical and psychological impact of living with this chronic disease every single day.

This study is the first of its kind: a large scale cross-country comparison that explores the impact of psoriasis on happiness and benchmarks the levels of happiness of people with this disease against country averages.

The World Psoriasis Happiness Report proves that physical health and mental health cannot be separated

This report argues that psoriasis has far-reaching mental health consequences – particularly loneliness and stress – resulting in a significant happiness gap.

The time has come to start talking about well-being inequality. To speak up for those living in the shadows. And to honor the noble idea that the true measure of any society is how we treat our most vulnerable members.

Happiness: the new metric of progress

In recent years, happiness has emerged as the metric by which we measure our progress as societies. In 2011, the United Nations passed its resolution on happiness and emphasised that 'happiness as a universal goal and aspiration embodies the spirit of Millennium Development Goal'.

Also in 2011, the Organisation for Economic Cooperation and Development (OECD) began including life satisfaction as a parameter for the development of its member countries. Angel Gurría, Secretary General of the OECD stated that 'improving the quality of our lives should be the ultimate target of public policies'.

Previously, for more than a century, the focus was on economic inequality, due to the widespread adoption of Italian statistician Corrado Gini's model of income and wealth distribution as a societal metric. As history has shown, economic inequality causes crime, social unrest and even armed conflicts.

While Gini's model is an important one, it's imperative that we begin to address inequality in well-being too.

Happiness across the world

We measure this in two ways: by measuring the happiness average of our survey respondents, and by measuring the way happiness is distributed across regions. Happiness rankings are often based on national averages of answers to questions like 'How satisfied are you with you life as a whole on a scale from 0 to 10?'

According to the *World Happiness Report,* Norway, Denmark, Canada and Australia are among the happiest countries in the world, while Syria, Burundi, Tanzania and the Central African Republic are predominantly characterised by misery.

The difference in happiness between the highest and the lowest happiness ranking countries is mainly ascribed to factors like social support, generosity, personal freedom, freedom from corruption, wealth, and life expectancy.

However, these factors are related to differences by country. 80% of happiness variances occurs within a country.

In others words, every country has both very happy and very unhappy people. In addition, this type of internal happiness inequality is not solely due to differences in income, but to differences in mental health.

According to the *World Happiness Report*, eliminating mental health issues as a factor in society would improve general happiness more than eliminating poverty and unemployment all together.

Purely from a ranking point of view, it would make equal sense to design policies that increase the happiness of one person from a 9 to a 10, as to design policies that increase the happiness of another person from a 1 to a 2.

That said, we believe we have a moral obligation to focus our energies where well-being is most scarce and design public policies for those who are suffering the most. This should include people with psoriasis, especially those with severe psoriasis.

Our work: mapping happiness gaps for psoriasis

At LEO Innovation Lab and the Happiness Research Institute, we share the OECD's belief that the ultimate goal of public policies should be improving quality of life.

Our work includes mapping happiness gaps, documenting inequalities in well-being and discovering how we might improve quality of life for people with psoriasis.

This report demonstrates the monumental negative impact on happiness, well-being and quality of life of this chronic disease. People living with psoriasis are most often less happy, more stressed and more socially isolated than the general population. Historically, the psychological impacts of psoriasis have been vastly overlooked and underreported.

The findings of this study show just how crucial it is that we start to address happiness inequality of those with psoriasis.

The United Nations Happiness Resolution

> *'The General assembly [is] conscious that the pursuit of happiness is a fundamental human goal ... [and] happiness as a universal goal and aspiration embodies the spirit of the Millennium Development Goals.'*
>
> **UN General Assembly, Resolution 65/309, 2011**

Report Overview

Chapter 1: Why are people living with psoriasis unhappier?

This report emphasizes the importance of happiness inequalities caused by living with psoriasis. This chapter unfolds insights based on regression analysis and distributions of answers, and shows that psoriasis is related to significantly lower levels of happiness relative to the general population. These happiness gaps depend on severity, symptoms and affected body areas. Also, we show how happiness inequalities are strongly associated with *daily life emotions, stress, social support, loneliness, socio-economic status, gender* and *relationships to healthcare professionals and healthcare systems.*

In this chapter it's concluded that stress is the strongest psychological predictor of unhappiness, followed by loneliness. We find that stress is a non-discriminating factor, in the sense that it affects people living with psoriasis regardless of demographics, socioeconomic status and severity. Furthermore, of all daily emotions and experience - both positive and negative - *distress* is the most prevalent among this population.

Loneliness has the same patterns as stress. Though loneliness does not predict unhappiness quite as well as stress, it can be characterized as an all-pervading symptom. Also, even though loneliness obviously consists of social dimensions, it can't be relieved solely by social support. Social support matters for your general well-being, but other tools and factors must be considered if we are to bridge the happiness gap.

We find major gender differences, as women consistently report higher levels of stress and loneliness and significantly lower levels of happiness than men. This is rather unusual as women in general report higher levels of happiness[2].

Finally, both our quantitative and qualitative data show a clear lack of acknowledgment and understanding from healthcare professionals on how psoriasis impacts the well-being of people. This, in turn, creates great divides in happiness. Based on these insights, we find that increasing awareness and acknowledgement could be key tools in bridging the concerning happiness gaps of people living with psoriasis.

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[2] 'Females have higher life evaluations than males, of slight but statistically significant size, in five of the eight global regions: NANZ (+0.17 points), Southeast (SE) Asia (+0.09), South Asia (+0.05), East Asia (+0.09) and MENA (+0.28). Females have life evaluations significantly lower than males in two regions: CEE+CIS (-0.07) and sub-Saharan Africa (-0.03). There are very small and insignificant gender differences in Western Europe and Latin America' (Helliwell, John F., Richard Layard, and Jeffrey Sachs, eds. 2015. *World Happiness Report 2015.* New York: Sustainable Development Solutions Network.)

Chapter 2: Happiness inequality: How can we close the psoriasis happiness gap?

Some of the highest psoriasis-related happiness gaps were recorded in Denmark and Norway - but how can this be when those countries are the two happiest countries in general? In this chapter, we move from exploring the factors explaining the happiness gaps, and toward explaining how and why gaps vary between countries. Two assumptions present themselves: 1) *a cultural assumption* where people's well-being is more affected in individualistic cultures and 2) *a social comparison paradox* where it is more difficult to be unhappy in an otherwise happy society.

Finally, we explore how we can most effectively lift people out of misery. To do so, we grouped the countries into regions based on the definitions of EUROVOC and World Happiness Report[3]. The countries were grouped into regions as follows:

Latin America:	Brazil, Colombia, Mexico
Western Europe:	France, Germany, Ireland, UK
Southern Europe:	Greece, Italy, Portugal, Spain
The Nordics	Norway, Denmark
Northern America & Australia	Canada, US, Australia
Russian Federation	Russian Federation
Japan & China	Japan and China

(Japan and China: only in the rankings)

The evidence again suggests that the effects vary between geographical regions. However, it is clear that reducing the most extreme cases of stress can lift a lot of people out of misery, regardless of which region we investigate.

Chapter 3: Country differences

In Chapter 3, we present country score cards for all the primary countries. The chapter is divided into geographical regions, where all key numbers on the measured well-being factors are presented. These key numbers continue to emphasize the importance of stress as a predictor of unhappiness, but will also move beyond this factor and address factors like social support, self-esteem and assessment of the relationship with the HCP. Finally, the following sections seek to explore the gender differences on each factor, to address where in the world the gender gaps are most significant.

Concluding remarks: A continued mission to address well-being inequalities

In this final chapter, we sum up the most important findings. Based on these findings, we emphasize the need for putting well-being on the global healthcare agenda. By building a common language on health and happiness - which supports collaboration, knowledge sharing and change - we argue that a better understanding and prioritization of actionable agendas advancing well-being performance become possible. This will help healthcare systems and healthcare professionals to develop more patient-oriented practices and governments to develop better public policy.

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[3] *The thesaurus of the European Union* & Helliwell, J., Layard, R., & Sachs, J. (2017). *World Happiness Report 2017*, New York: Sustainable Development Solutions Network.
It is important to stress that these regions only serve as categories for the 19 countries included in the analysis, and thus only as indications of the regional performance. For a complete assessment of the regional performance we would need more country cases within each geographical region.

Methodology

How we measure happiness

PsoHappy is an ongoing survey platform for gathering insights around different aspects of well-being for people living with psoriasis.

The surveys are based on:

- validated survey models that explore mental well-being aspects like stress, social support, self-esteem and loneliness
- original methodologies and open-ended questions that capture the experiences and emotions of respondents.

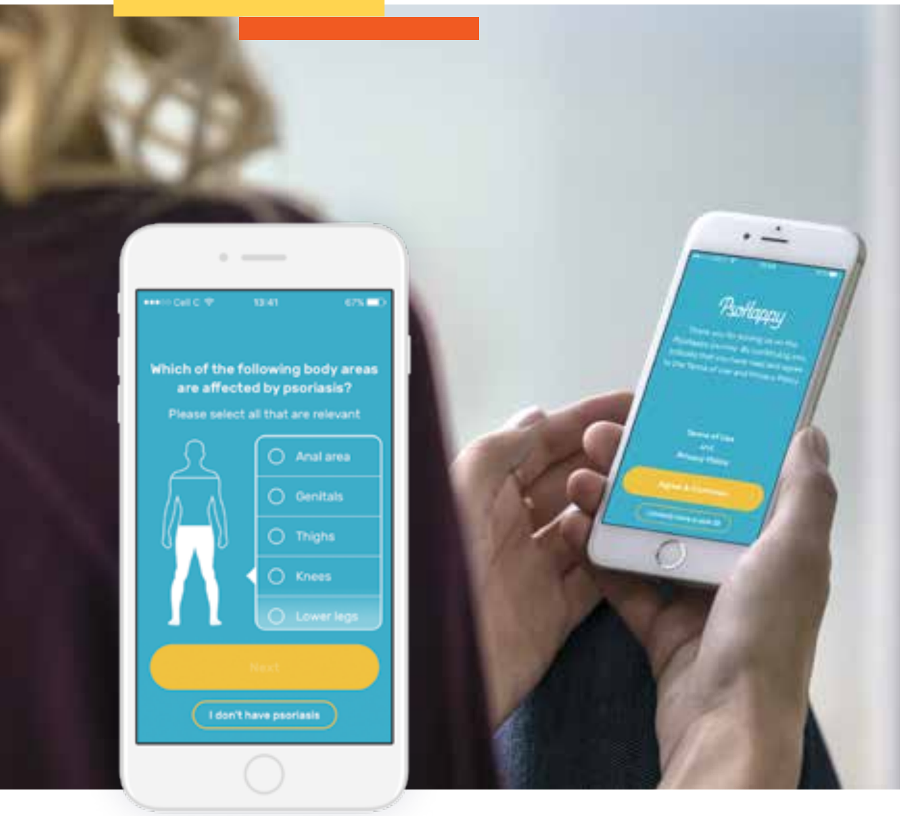
The study is delivered through the PsoHappy app (available for free in the App Store and GooglePlay) and a web app. The apps are built around user-centred design principles, allowing constant feedback from people living with psoriasis which was then incorporated in new iterations.

Anybody living with psoriasis, regardless of their treatment or severity, can download the app and answer the short surveys. The app also allows participants to drop off and come back later to answer a new survey.

Surveys were:

- served in sets of 4-5 surveys which were available for three-month periods
- sent out in a random order to ensure a sufficient sample size for each survey
- promoted through in-app notifications, push notifications and emails to invite participants to answer as many surveys as possible.

In order to ensure participants were genuinely real people living with psoriasis, several questions regarding different aspects of living with psoriasis were presented during the first (onboarding) survey. We also included in the answers list the option 'I don't have psoriasis'. Data sets associated with this answer have been eliminated from the final analysis.



Who we measure

Target population

The target population of PsoHappy is people living with self-reported psoriasis.

Our objective is to achieve a representative sample of this group in all the countries we study. We only study people above the age of 15 who are considered residents of the country in question.

We chose to capture the resident population rather than citizens of a country because the majority of the policy-relevant drivers of well-being depend on where a person lives. In addition, this is necessary if we are to ensure that international comparisons are comparing like with like – for example, when we compare our subjective well-being scores to the scores presented in the *World Happiness Report*.

Recruitment of participants

Participants were recruited through:

1. Facebook ads targeting people who have expressed an interest in psoriasis-related groups or pages in each country
2. Google AdWord campaigns targeting people based on their searches
3. other social media, such as WeChat in China
4. invitations to take the surveys from patient associations in the countries where we have partnerships such as Denmark, France, Canada, the US, Australia, Belgium, China and Japan.

Geographical coverage and criteria for inclusion

We have collected data from people all around the world - 184 countries (prior to sample procedures[4]) and 174 countries (after sample procedures), which are applied in the analysis for general global insights chapter.

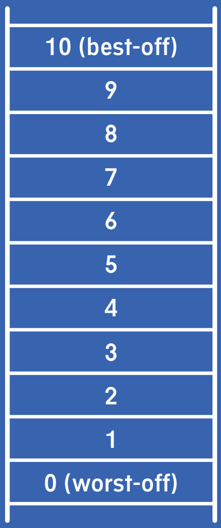
We have also conducted comparative analysis (analysing country differences). A country was deemed to be eligible for inclusion and statistical analysis if it had 384 people living with psoriasis per survey[5] and a demographically well-distributed sample[6].

19 countries were considered eligible for inclusion and statistical analysis[7] (in alphabetical order): Australia, Brazil, Canada, China, Colombia, Denmark, France, Germany, Greece, Ireland, Italy, Japan, Mexico, Norway, Portugal, the Russian Federation, Spain, the United Kingdom and the United States of America.

At the time of writing this report (August 2017), the app and the surveys are delivered in 12 languages: English, Spanish, Portuguese, French, German, Italian, Russian, Chinese, Danish, Norwegian, Japanese and Greek.

What we measure

So we could develop a comprehensive understanding of the well-being of people living with self-reported psoriasis, we have used the measures for which there is the most evidence for validity, where results are least complicated to interpret, and where policy relevance is the most developed.



Happiness

Research has revealed that happiness as a concept is pluralistic. It includes a continuum from ***life evaluation***, which involves a cognitive evaluation of the respondent's life as a whole, to ***affect***, which captures the emotions and experiences of the respondent.

Life evaluation

When measuring *life evaluation*, we adopt the scale used by the United Nations, the *Gallup World Poll* and Columbia University in the *World Happiness Report*. We used the Cantril Self-Anchoring Striving Scale (also referred to as the Cantril Ladder[8]). The Cantril Ladder is possibly the most

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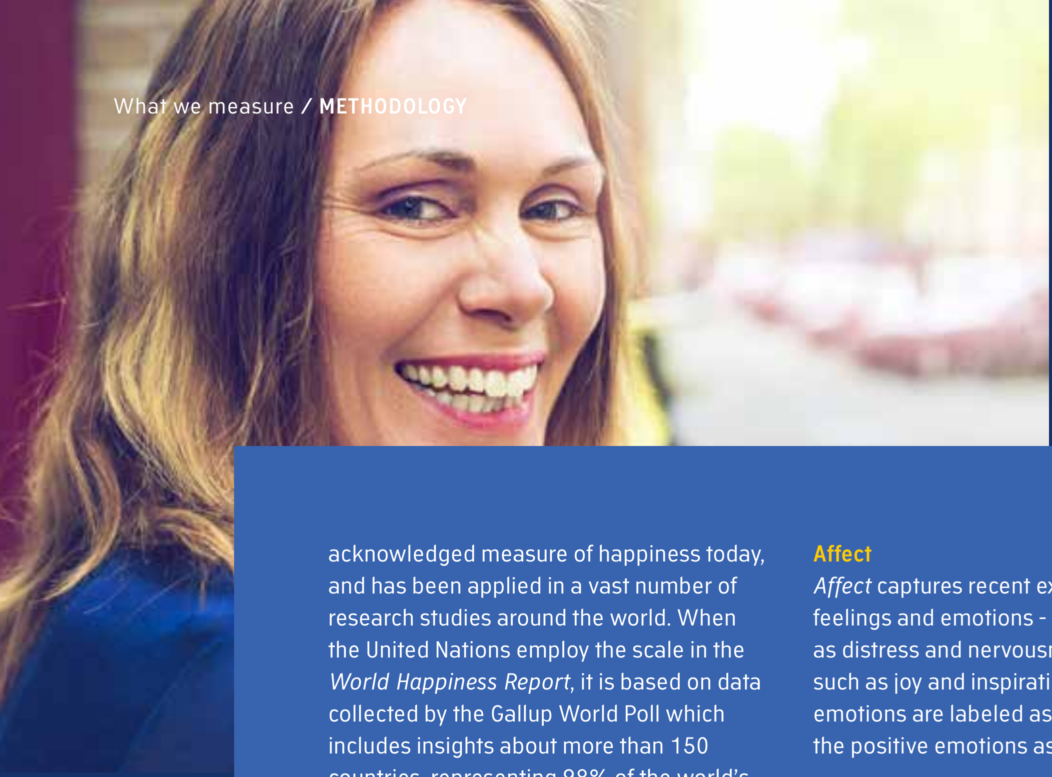
4 An age-filter excluding respondents below the age of 15

5 A representative sample requires a size of 384 units (5% margin of error and a 95% confidence level)
$SS = (\text{Z-score})^2 * p*(1-p) / (\text{margin of error})^2$
$SS = (1.96)^2 * 0.5*(1-0.5) / (0.05)^2$
$SS = 3.8416 * 0{,}25 / 0.0025$
$SS = 384.16$
Source: Cochran, W. G. 1963. Sampling Techniques, 2nd Ed., New York: John Wiley and Sons, Inc.

6 See appendix - 'Methodological Considerations'.

7 These 19 countries meet the conditions for inclusion. However, as Japan and China have been included late in the process, they are not subject to individual case studies.

8 Cantril, H. (1965). *The pattern of human concerns.* New Brunswick, NJ: Rutgers University Press.



acknowledged measure of happiness today, and has been applied in a vast number of research studies around the world. When the United Nations employ the scale in the *World Happiness Report*, it is based on data collected by the Gallup World Poll which includes insights about more than 150 countries, representing 98% of the world's population.

The Cantril Ladder was developed by the social researcher, Dr. Hadley Cantril, and consists of the following:

> *'Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you.*
>
> - *On which step of the ladder would you say you personally feel you stand at this time?*
> - *On which step do you think you will stand about five years from now?'*

Affect

Affect captures recent experiences of feelings and emotions - both negative, such as distress and nervousness, and positive, such as joy and inspiration. The negative emotions are labeled as *negative affect* and the positive emotions as *positive affect*.

To measure affect, we employ the Positive and Negative Affect Schedule (PANAS) which comprises these two mood scales based on 20 different emotions[9].

Psychological drivers of happiness

Happiness and unhappiness manifest in numerous aspects of our lives. We are interested in understanding how psoriasis is related to *loneliness, social support, stress* and *confidence.*

Stress

To measure stress, we employ the Perceived Stress Scale developed by Dr. Sheldon Cohen[10]. This scale consists of 10 questions related to how the respondent experiences life events that are often beyond their control. The scale gives us an indication of the general resilience of the respondent,

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[9] Watson, D., Clark, L. A., & Tellegen, A. (1988). *Development and validation of brief measures of positive and negative affect: The PANAS scales.* Journal of Psychology, 54(6), 1063-1070.

[10] Cohen, S., Kamarck, T., & Mermelstein, R. (1983). *A global measure of perceived stress.* Journal of Health and Social Behavior, 24, 385-396.

and doesn't ask questions related to more specific areas such as work life and private life. The Perceived Stress Scale is not suitable to give an actual stress diagnosis of the individual, but is often used to evaluate and address stress levels in sub-groups of the population.

Loneliness

To assess loneliness, we use the UCLA Loneliness Scale[11], which is often considered the 'gold standard'. We use a revised version designed for studies with larger sample sizes, which consists of three questions related to social isolation and loneliness[12].

Social Support

To measure social support, we employ the Multidimensional Scale of Perceived Social Support[13] (MSPSS). The MSPSS is a research tool designed to measure the perceptions of social support from three domains: family, friends, and a significant other. The scale is comprised of a total of 12 items, with 4 items for each sub-scale.

Confidence

To measure confidence we employ The Rosenberg Self-Esteem Scale developed by prof. Morris Rosenberg[14]. The Rosenberg Self-Esteem Scale is probably the most widely-used confidence measure in social science. Through 10 statements the scale aims to assess self-worth and self-acceptance of the respondent.

In addition to these core measures, we also measure aspects related to the disease or quality of life of the individual such as: self-reported psoriasis severity, burden of disease, assessment of the healthcare system and healthcare professionals, general life worries, and behaviour.

We use a set of demographic questions to identify the sample characteristics, including questions on age, gender and socioeconomic status[15]. Finally, we ask open-ended questions where the respondent can freely express their feelings about and experiences of living with psoriasis.

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[11] Russell, D. W. (1996). *UCLA Loneliness Scale (version 3): Reliability, validity and factor structure*. Journal of Personality Assessment, 66, 20-40.

[12] Hughes, M. E., Waite, L. J., Hawkley, L. C., & Cacioppo, J. T. (2004). *A short scale for measuring loneliness in large surveys: Results from two population-based studies*. Research on Aging, 26, 655-672.

[13] Zimet, G.D., Dahlem, N.W., Zimet, S.G. & Farley, G.K. (1988). *The Multidimensional Scale of Perceived Social Support*. Journal of Personality Assessment, 52, 30-41.

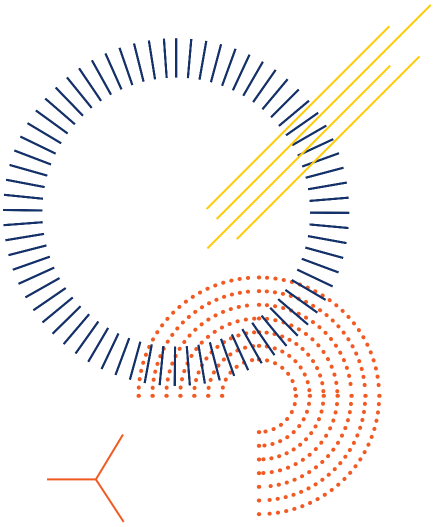
[14] Rosenberg, Morris. 1989. *Society and the Adolescent Self-Image*. Revised edition. Middletown, CT: Wesleyan University Press.

[15] Adler N, Stewart J. *The MacArthur Scale of Subjective Social Status*. 2007.

Analysis

Simply developing and employing the research questions is not sufficient to make decisions and interpretation about the data output as surveys may be addressed in more than one valid way.

Therefore, in this study, we employ different analytical approaches, to produce different perspectives on the data. We are primarily using descriptive analysis, but to determine key drivers of well-being for people with psoriasis we employ more sophisticated techniques, such as analysing partial correlations and developing linear prediction models.



Limitations of methodology

Diagnosis and severity classification

This study is based on self-perceived psoriasis and severity, as we aim to capture the perspective of those living with psoriasis. For this reason, the findings of this report can't be cited or referred to as if they were based on clinical diagnosis confirmed by healthcare specialists.

It is important to be aware of this as we know from other studies that 22% of patients with mild disease would report that they have severe disease, and 43% would report they have moderate disease. For moderate disease, this number is 39% reporting severe and 7% reporting mild[16].

Data collection and sampling

All data is collected by Self-Administered Questionnaires (SAQs), traditionally conducted in a pen-and-paper format, but which increasingly involve internet-based surveys. As the surveys for our study are provided through an app and a web-based (browser-enabled) app, we must consider both coverage errors (where we fail to reach some certain segments) and *non-response bias* (due to preferences for certain modes among respondents). Furthermore, survey modes also become important to consider when we compare our data to data collected by different modes.

Because a robust and demographically well-distributed sample can reduce the impact of these errors, we will continue to further refine our methodology to include control variables and weights.

(For more information on these considerations, the sample characteristics and the applied scales, please see the Appendix)

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[16] Lebwohl, M.G., Bachelez, H., Barker, J., Girolomoni, G., Kavanaugh, A., Langley, R.G., Paul, C.F., Puig, L., Reich, K., van de Kerkhof, P.C. (2014) *Patient perspectives in the management of psoriasis: results from the population-based Multinational Assessment of Psoriasis and Psoriatic Arthritis Survey*. J Am Acad Dermatol. 2014; 70: 871–881

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PD. Dr. Sascha Gerdes, Head, Clinical Studies Division, Psoriasis Centre, Dept. of Dermatology, University Medical Center Schleswig-Holstein, Campus Kiel, Kiel, Germany

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Ruut Veenhoven, Founding Director of The World Database of Happiness, Professor Emeritus of 'Social Conditions for Human Happiness', Erasmus University Rotterdam

Sophie Andersson, Executive Director, International Federation of Psoriasis Associations

Gert Jan Hofstede, Associate Professor at Wagening University, co-author of 'Cultures and Organizations: Software of the Mind' (revised and expanded 3rd Edition, New York: McGraw-Hill USA, 2010)

Patient associations that have supported PsoHappy:

- Association France Psoriasis (Association Pour La Lutte Contre le Psoriasis)
- Canadian Association of Psoriasis Patients
- China International Exchange and Promotion Association for Medical and Healthcare
- Hong Kong Psoriasis Patients Association
- Japan Psoriasis Association
- National Psoriasis Foundation
- Psoriasis - Contact asbl (Association de patients en Belgique)
- Psoriasis En Red (Asociación española de pacientes de psoriasis y artritis psoriásica)
- Psoriasisforeningen, Denmark
- PsoPortugal (Associação Portuguesa da Psoríase)

Our most special thanks go to all the people living with psoriasis across the world who have taken the PsoHappy surveys and made this report possible.

Chapter 01:

General Insights

General Insights:

What is happiness?

The terms 'happiness', 'well-being' and 'quality of life' are all subjective and encompass a wide range of emotions and experiences. Therefore, we've sought to break the concepts down into different components in accordance with the OECD's *Guidelines on Measuring Subjective Well-being*.

For example, when we talk about the economy, it's useful to break that broad term into different areas, for instance, gross domestic product (GDP), growth, inflation, interest rates and so on. Each indicator provides additional information about economic health and performance.

Similarly, we look at different indicators that provide us with information about how individuals are faring in terms of well-being, happiness and quality of life. Some of these indicators are centred on daily emotions, while others are concerned with overall life evaluation. Some consist of temporary feelings, while others imply a lasting sense of contentment.

For now, let us introduce two standard concepts from happiness research:

- happiness can be *affective* - this refers to the presence of positive emotions like pleasure and joy, or the absence of negative emotions like pain and sorrow. Affective happiness can be determined by asking the question: 'How happy are you right now?' It is usually presented as momentary, composed of temporary emotions and feelings.
- happiness can be *evaluative* - this refers to the judgement you formulate on your own life when asked: 'How happy are you with your life overall?'

These questions are used for various large-scale polls and surveys such as the *Eurobarometer*, the Gallup World Poll, the *European Social Survey*, the *World Values Survey*, and *the World Happiness Report*.

Naturally, the two dimensions are linked, and this is supported in our findings.

If you generally have days with a lot of positive emotions or an absence of negative emotions, you're more likely to report higher levels of overall well-being.

However, it is useful to distinguish between the two, as we can have a lousy morning and still feel happy with our life overall.

In this report, we will examine both these dimensions – together with other measures such as loneliness and stress. Together, we should be able to construct a dashboard of indicators that tell us how people are feeling and, importantly, how we may improve their quality of life.

PsoHappy Profile: Margot

58, Orono, Maine USA

I've had psoriasis all my life but it was never a serious problem until 2011. I started developing very painful sores on my hands and feet and saw numerous dermatologists, an immunologist and a naturopath. My psoriasis was incorrectly diagnosed as many things, ranging from warts to keratosis to a version of the herpes virus. During this time, the sores became progressively worse, spreading over my entire body and my joints started to ache. I became absolutely exhausted and felt like I had flu most of the time.

Four painful years later, I received an accurate diagnosis.
In 2015, my GP insisted I see another dermatologist and although I was very skeptical that it would help, I complied. When I saw him he immediately identified it as psoriasis and put me on medication. Eureka! My skin started to slowly clear up. But the medication had nasty side effects and made me even more exhausted. I felt like a half-dead zombie.

After 15 months I stopped taking it and decided to eliminate wheat and dairy from my diet. I discovered alternative light therapy through a family member and have been using it daily to treat my skin and painful joints. It's working for me.

This illness has been devastating.
I'm too tired and sore to enjoy many of the activities I used to, and I live in fear of future flares. It has also taken a terrible toll on me emotionally.

Psoriasis affects you on a deeply psychological level. I'm very lucky that I have a supportive husband and two wonderful children. They've had a hard time understanding what's happening to me but they love me and respect my needs. Unfortunately, other family members haven't been quite as understanding.

I was forced into early retirement as a result of my psoriasis.
As well as the physical, emotional and mental impacts of this chronic disease, I had to quit my job. This was the hardest thing I've ever done, and it exacerbated my depression.

I really don't know which of my symptoms is the worst.
I find the ugliness of my hands and feet to be very upsetting, especially as the layers of skin peel off. The pain and stiffness, combined with my lack of energy, make me feel a lot older than I am.

It's very difficult when you don't understand what's going on with yourself, never mind when others don't understand.
My terrible experiences with several dermatologists and their inability to provide a diagnosis, never mind their lack of concern or empathy, left me feeling very frustrated and angry. One even suggested that I might be crazy.

Psoriasis gives you a terrible feeling of alienation and disconnection with the world.
The pain and exhaustion that you feel make you retreat from many of the activities you used to do. The unsightliness of the lesions make you embarrassed to be seen so you tend to become self-conscious and socially inhibited.

I remember having a recurring dream about walking through an empty unlit house at twilight with a very eerie feeling.This was before I got my diagnosis and I believe it was my subconscious trying to tell me something was deeply wrong with me.

I would rate my happiness level as a 5. It was a 1, but I still feel I have a way to go.
I feel my confidence has been undermined because this disease has taken away my control over life. I'm desperately trying to avoid flares by watching everything I eat and everything I do. I can't get overtired or overstressed so I have to curtail all my activities. Depression is something I struggle with every day.

Psoriasis has a major effect on well-being:

Looking across 184 countries and 121,800 people living with psoriasis, we find that this chronic disease has a major negative impact on how someone evaluates their overall happiness. In addition, overall happiness depends on the affected body area, symptoms and disease severity.

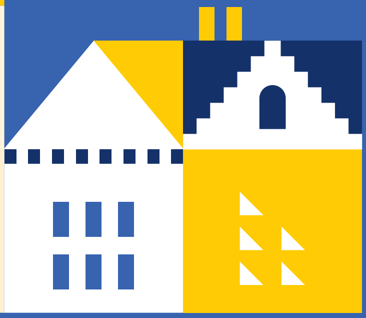
Using the *World Happiness Report 2017* as a benchmark, our study shows that in some countries, people living with self-reported severe psoriasis report up to 30% lower levels of happiness than their fellow residents. This percentage is inordinately high, stressing the need for intervention and action. In comparison, the happiness gap between the people with the highest income and the lowest income is half as big in the UK and is only a third as big in Denmark.

Andrea, 46, USA

‘I just don’t even want to leave my house. The pain in my hands caused me to have to stop working. There was quite a bit of social interaction while I was working. Now I have almost none. I kept in touch with a few people, but most of the people I thought were my friends, abandoned our friendships when I stopped working. That hurt me very deeply. Now when I do make plans with a friend, I end up canceling anyway. I’m depressed and don’t want to leave home at all.’

Table 1[17]

	UK	Denmark
Income related happiness gap Happiness gap between highest and lowest income groups	16% (n = 460)	10% (n = 324)
Psoriasis related happiness gap Happiness gap between general population and psoriasis population	28% (n = 1,112)	31% (n = 825)



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[17] These calculations are based on data from *The European Social Survey 2014* and the *World Psoriasis Happiness Report*. In both surveys, the reference measure is similar to the format of Cantril Ladder, but is posed slightly differently: ‘Taking all things together, how happy would you say you are?’ For this reason the gaps presented in this table are not comparable to the gaps based on the Cantril Ladder.
Income groups are defined as ‘household’s total net income’, where the lowest income group refers to the 1st decile and the highest income group refers to the 10th decile.

The impact of psoriasis on quality of life

In addition, we find that living with psoriasis has a negative impact on a broad spectrum of quality of life indicators, ranging from physical pain and bleeding, to stress and social isolation.

20%

20% never or almost never felt loved within the last two weeks[18]

34%

34% never or almost never feel things go their way[19]

33%

33% never or almost never felt on top of things within the last month[20]

24%

24% never or almost never felt confident about themselves within the last two weeks[21]

54%

54% very or fairly often feel nervous and stressed[22]

The negative effect of a chronic illness on happiness is neither a surprising nor new observation. *The World Happiness Report 2016: Special Rome Edition* found a negative correlation between happiness and self-reported long-term health problems, illness, disability or infirmity.
What is new, however, is our finding that the size of the effect on happiness depends on where on the body psoriasis is located, what kind of symptoms people experience, and naturally, the level of severity of the disease.

Severity matters

Severity of psoriasis has previously been shown to have a significant impact on the of life[23] and well-being of people living with psoriasis. Clinically, the severity of psoriasis can be categorised into mild, moderate or severe by using a variety of validated severity measures.

To capture psoriasis severity, we asked survey respondents to self-report their:

- affected Body Surface Area (BSA) by calculating the number of palms it would take to cover the psoriasis on their body (a palm equals 1%[24] of the total body surface area); mild psoriasis: 1 - 3%, moderate psoriasis: 4 - 9% and severe psoriasis: ≥10%)
- subjective impression of severity by rating their psoriasis as mild, moderate or severe.

---

18 n = 5,578
19 n = 11,549
20 n = 11,311
21 n = 5,612
22 n = 11,707
23 Geale K, Henriksson M, Schmitt-Egenolf. Health Qual Life Outcomes (2017) *How is disease severity associated with quality of life in psoriasis patients? Evidence from a longitudinal population-based study in Sweden*. Jul 28;15(1):151. doi: 10.1186/s12955-017-0721-x.
24 Thomas CL, Finlay AY. (2007) *The 'handprint' approximates to 1% of the total body surface area whereas the 'palm minus the fingers' does not.* Nov;157(5):1080-1. Epub 2007 Sep 13. Paperpile

Different measures of severity

In this report, we refer to the subjective self-perceived scale, where respondents categorised their severity as either mild, moderate or severe themselves. In the methodology section, limitations of this assessment are discussed.

We find that this measure best captures people's experienced levels of their own perceived severity. That is, if people with moderate psoriasis experience lower happiness levels than people with mild psoriasis, and people with severe psoriasis experience even lower levels than people with moderate psoriasis. Our ambition is to eventually uncover the measure of severity that best captures the variation in happiness levels of people with psoriasis.

11.7%

the average happiness gap for people with psoriasis experiencing scaling

32.5%

the average happiness gap for people with psoriasis experiencing trouble walking

Symptoms impact happiness differently

So far, our findings indicate that different symptoms of psoriasis have different effects on happiness, ie 'scaling' is associated with 11.7% lower happiness levels[25], but 'trouble walking' seems to be the symptom that impacts happiness the most, as people report 22% lower happiness levels[26].

For people living with severe psoriasis, the happiness gaps due to symptoms increase, but the order remains the same. 'Scaling' still impacts the least (27.2%)[27] and 'trouble walking' (32.5%)[28] the most.

Katherine, 69, USA

'I'm divorced and would like to date. However, I am sure no man would find me attractive because I have ugly flaky psoriasis.'

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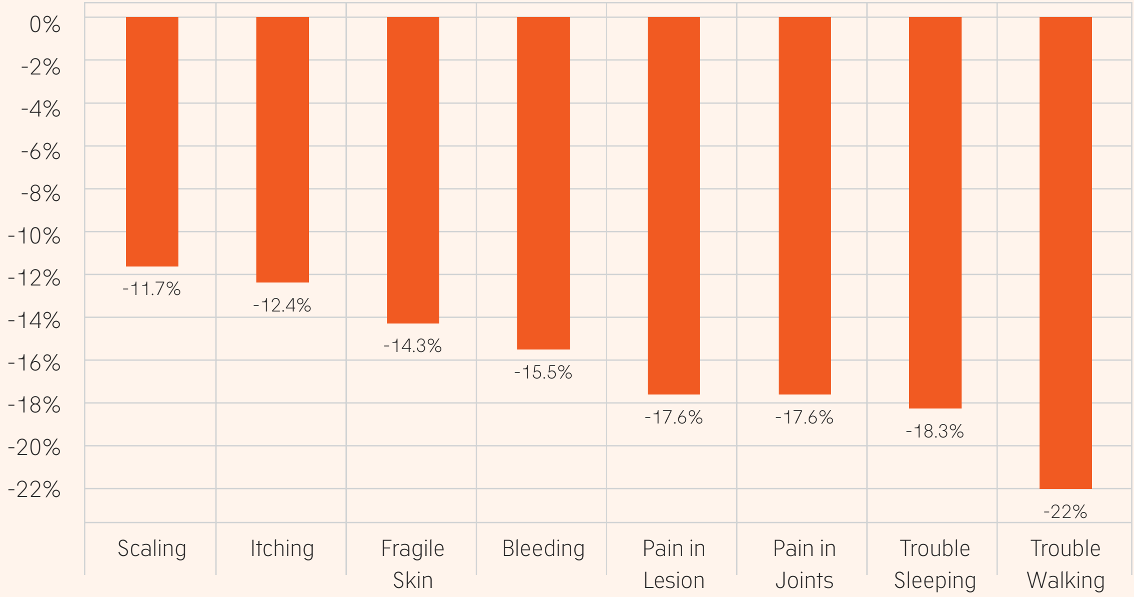
[25] n = 3,799

[26] n = 789

[27] n = 896

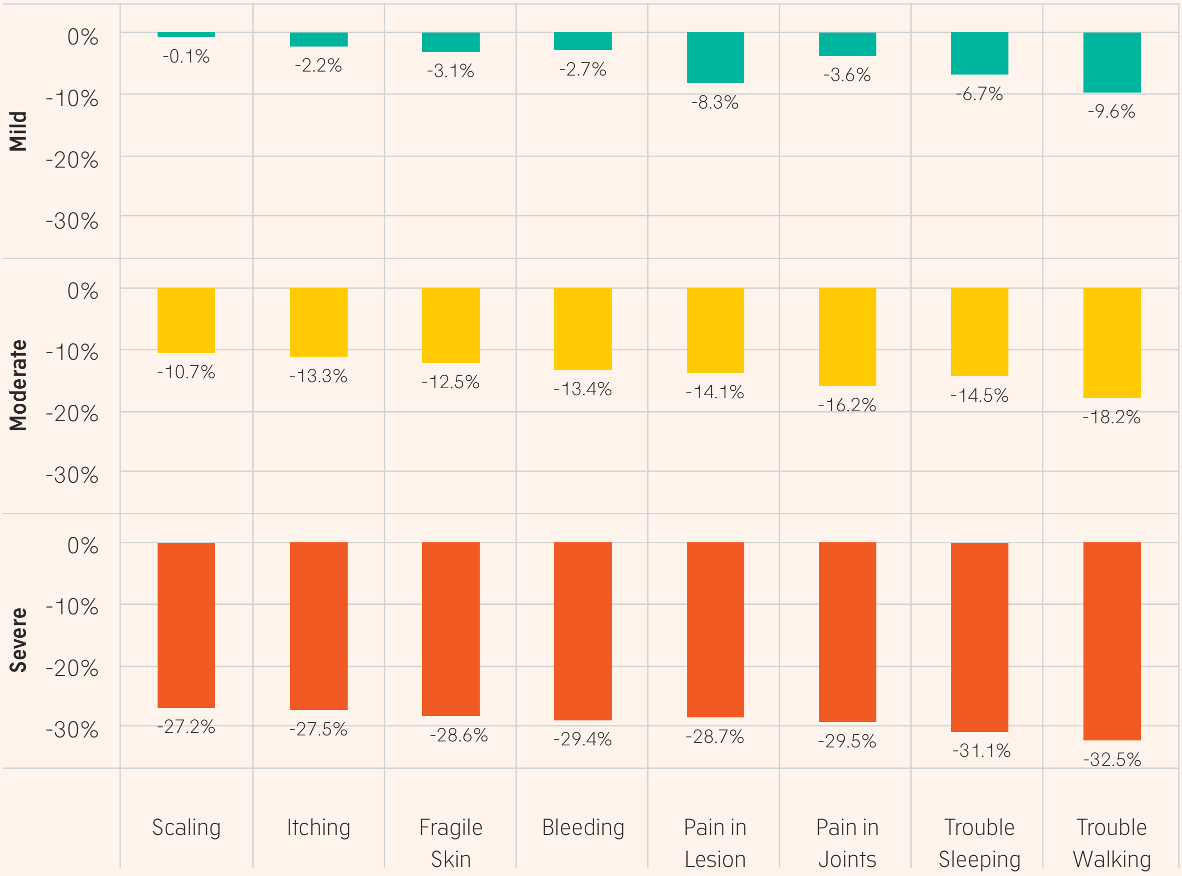
[28] n = 284

Average happiness gaps by symptoms experienced



n = 6,903

Average happiness gaps for people living with these symptoms (per severity)



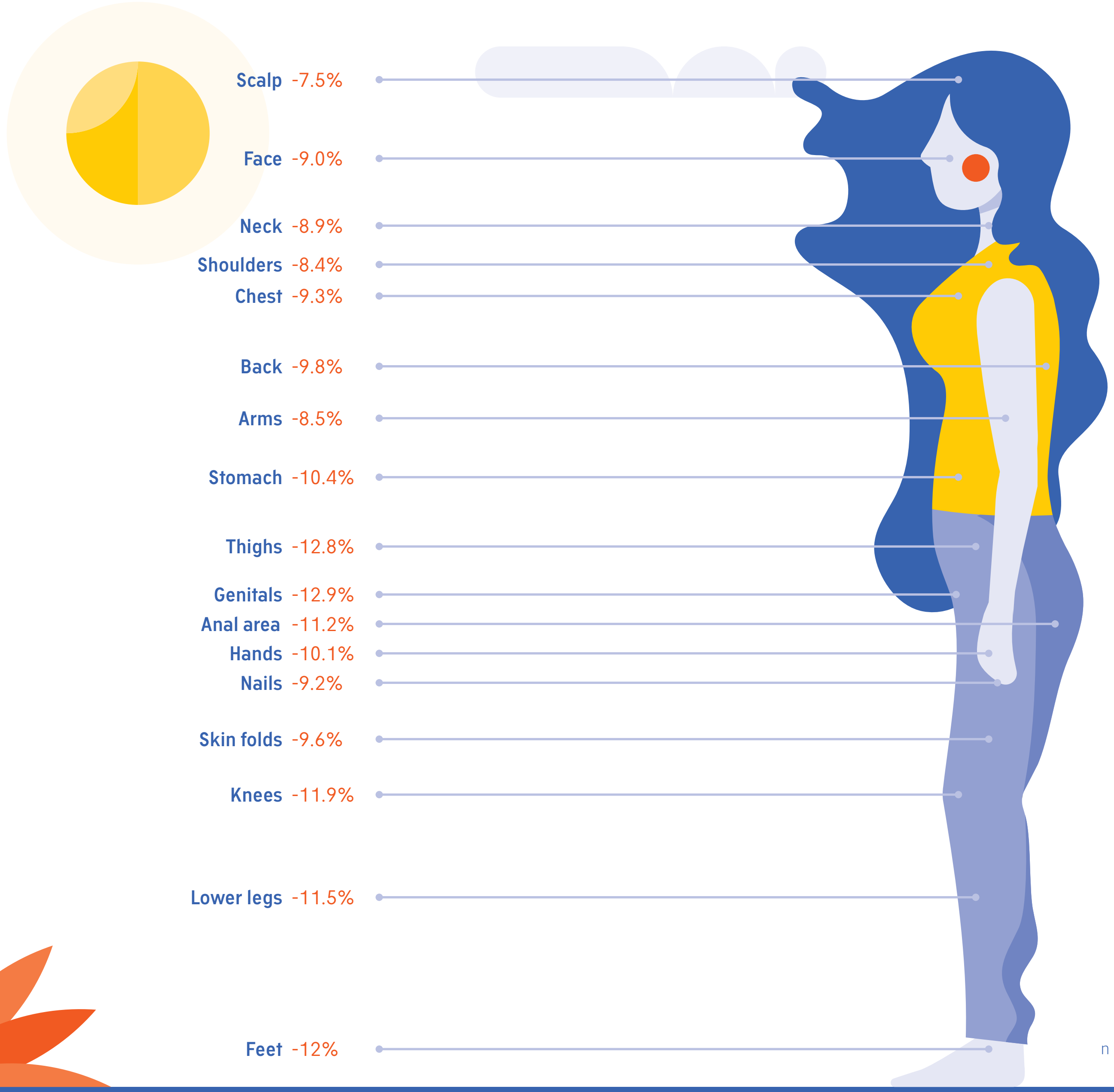
n = 6,401

Different affected body areas have different impacts on happiness

The lowest levels of happiness in our group of respondents is associated with psoriasis on the genitals[29].

This is understandable, as psoriasis on intimate areas of the body may create physical or psychological challenges and impact people's sex life. While both men and women reported the lowest levels of happiness when they had psoriasis in the genital region, women are more severely affected, as confirmed further on in the report.

At the other end of the scale, happiness seems to be least affected by psoriasis on the scalp, shoulders, arms and neck.



n = 43,686

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[29] n = 3,816

Reducing daily negative emotions may improve general happiness

Measuring happiness in terms of daily affective emotions instead of an overall life evaluation reveals that negative emotions – and in particular, the feeling of distress – are strongly linked to general unhappiness and misery.

As we mentioned in the beginning of the report, happiness can be measured in different ways - both as an overall evaluation of one's life or as a spectrum of daily emotions or mood (both positive and negative).

Happiness research has compiled a significant amount of data and insights about daily emotions. For instance, we now know that as a general population, Latin Americans experience the most positive emotions throughout the day. Also, we know that positive emotions can be linked to better health and decreased symptoms and pain.

Research also indicates a strong link between our daily emotions and how we evaluate our life as a whole. According to the *World Happiness Report*, positive emotions are strongly associated with how you evaluate your life. Interestingly, there is almost no significant association between negative emotions and life evaluation. In other words, promoting positive emotions and experiences are more important for your general happiness than limiting or eradicating negative experiences or emotions. Or at least that seems to be the case in general populations[30].

For people living with psoriasis, we find that negative emotions are equally important for their evaluation of their lives as a whole[31]. This knowledge is truly interesting due to its inconsistency with the patterns in the general population. But, in order to convert this knowledge into action, we must consider specific emotions.

Distress as the key emotion

We used the Positive and Negative Affect Schedule (PANAS) to measure ten positive and ten negative emotions in respondents. This enabled us to test which emotions most relate to general happiness.

These five emotions were revealed as the ones most linked to general happiness: distressed, upset, enthusiastic, ashamed, scared.

Top 5 key emotions

1	Distressed	Negative emotion
2	Upset	Negative emotion
3	Enthusiastic	Positive emotion
4	Ashamed	Negative emotion
5	Scared	Negative emotion

Based on correlation coefficients between PANAS and Cantril's ladder

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[30] Helliwell, J., Layard, R., & Sachs, J. (2017). *World Happiness Report 2017*, New York: Sustainable Development Solutions Network. pp. 16

[31] Table A in Appendix

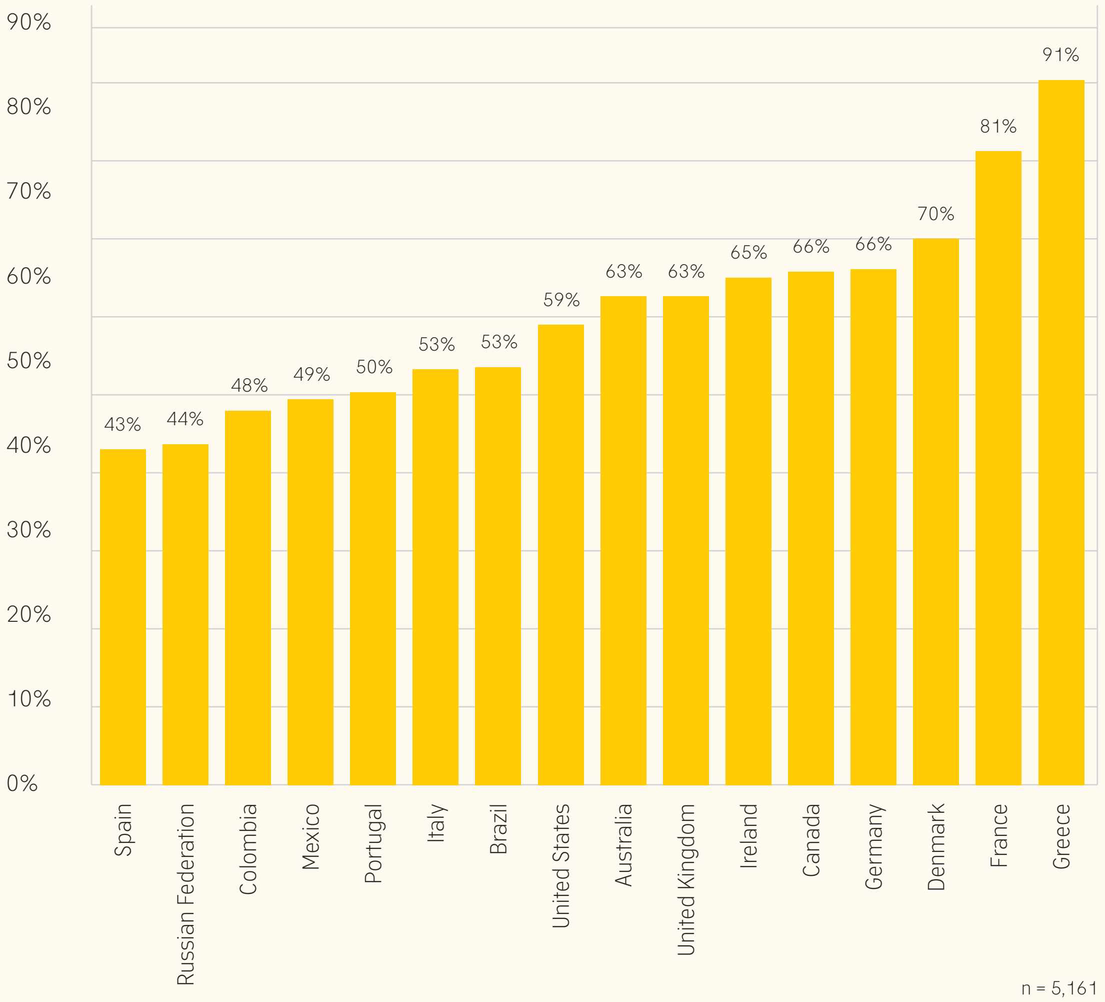
This data shows that distress is a key indicator of unhappiness and is the emotion most strongly associated with negative life evaluations.

60% of respondents report experiencing distress to a moderate to extreme degree in their daily life. This means distress is a norm for people for living with the disease. In some countries, the problem is even more prevalent. In Denmark and Canada, 65 - 70% of the respondents are affected by distress on a weekly basis.

Naomi, 26, UK

'This week has been stressful with work. My psoriatic arthritis is playing up with the current climate and making things more difficult in the morning and evenings.'

Percentage of people experiencing distress on a moderate to extreme degree in their daily life



n = 5,161

These numbers support the notion of distress as a key element in the happiness gaps for people living with psoriasis. However, a clarification of the extent and depths of this issue calls for a more comprehensive measure. In order to do this, we adopted the scale developed by Dr. Sheldon Cohen – the Perceived Stress Scale (PSS).

People living with psoriasis are subject to high levels of stress

Stress is an all-pervading factor that doesn't discriminate between disease severity, age, gender or socioeconomic status, according to our data. Stress is not only the best predictor of unhappiness, but is also a symptom that the majority of people living with psoriasis experience in their own life.

When daily demands exceed your ability to cope, life becomes stressful. This is the case for thousands of people living with psoriasis.

One way to measure people's stress is asking them questions like: in the past month 'How often have you felt confident about your ability to handle personal problems?', 'How often have you felt nervous or stressed?' and 'How often have you felt that difficulties were piling up so high that you could not overcome them?'.

Respondents may answer: 'never', 'almost never', 'sometimes', 'fairly often' or 'very often'.

We use Cohen's Perceived Stress Scale which uses similar questions.

Respondents' answers show that stress is very common among people living with psoriasis. More than half (54%) 'very often or fairly often' feel nervous and stressed[36]. Additionally, 25% 'never or almost never' feel confident in their own ability to handle personal problems, and 34% 'never or almost never' feel things go their way.

> **'I was a dental nurse and due to stress and low confidence, trying to cover it up wasn't good for my mental health and I left work . Also I loved performing arts but also stopped due to lack of self-confidence and not wanting people to see my horrible skin.'**
>
> **Jennie, 26, UK**

Distribution of answers - Cohen's Perceived Stress Scale

27%

27% have never or almost never been able to control irritations in their life[32]

25%

25% never or almost never feel confident in their own ability to handle personal problems[33]

33%

33% very or fairly often find that they cannot cope with the things they had to do[34]

34%

34% never or almost never feel things go their way[35]

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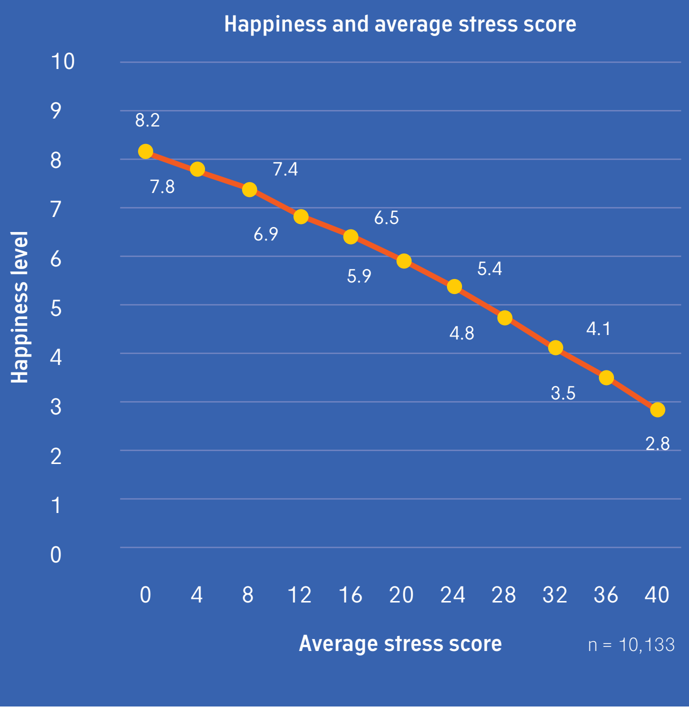
32 n = 11,377
33 n =11,633
34 n = 11,461
35 n = 11,549
36 n = 11,707



Cohen's Perceived Stress Scale provides a stress score of 0 - 40, where a score of 20 or above is considered 'high stress'.

Our data shows that stress is very closely related to happiness. The difference in happiness scores between the people with self-reported psoriasis who report the lowest stress levels (a score of 0) and the people who report the highest stress level (a score of 40) is 5.4. In comparison, the general population happiness gap between the happiest country in the world, Norway, and the least happy, Central African Republic, is 4.8.

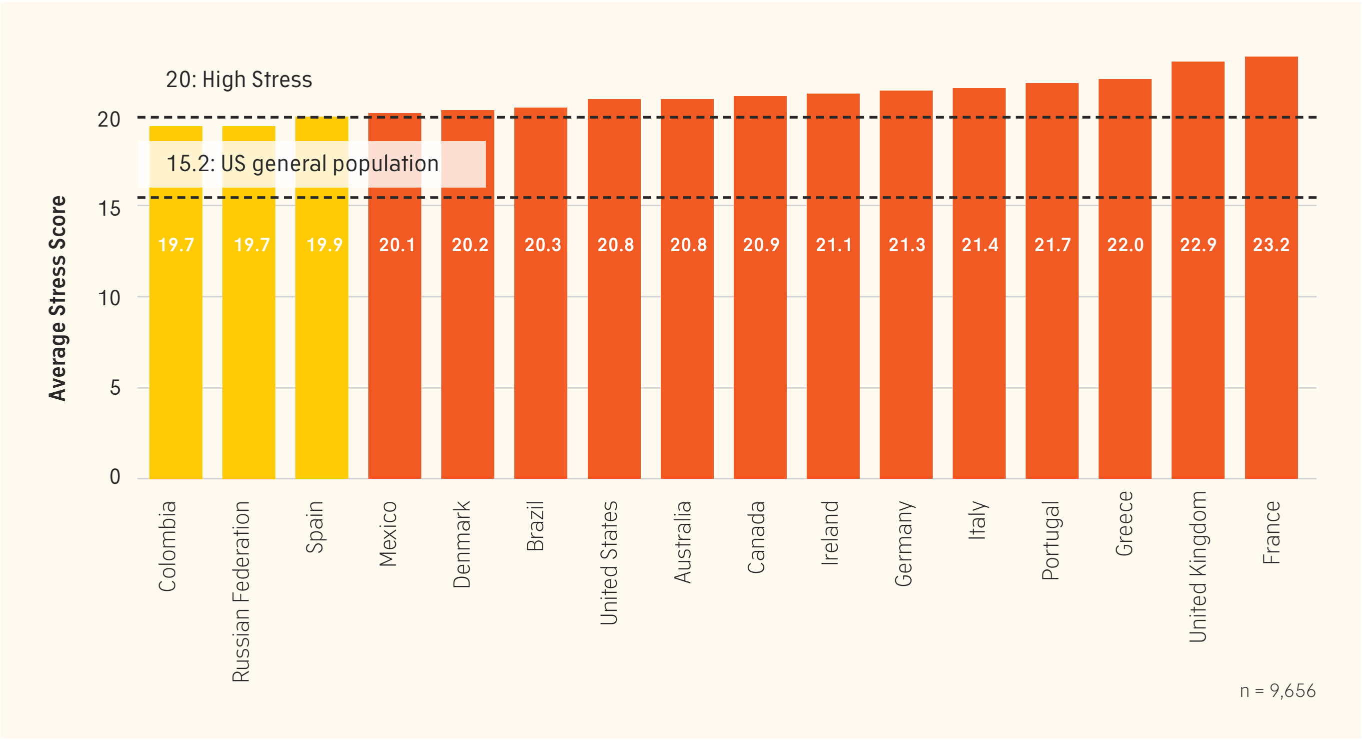
54%

54% very or fairly often feel nervous and stressed[36]

33% higher stress levels for people living with psoriasis

As a score of 20 or above is considered 'high stress', it is concerning that the average score of all people living with psoriasis is 20.9[36]. In comparison, the average score for the US general population – a population with a worrying share of stress issues in its own right – is 15.21[37].

In all the countries included in the study, we find that people living with psoriasis report stress levels above the American benchmark. In the majority of countries, they report stress levels that are also above the threshold for 'high stress'. For the US sample, the stress level is 33% higher for people living with psoriasis than the general American population.



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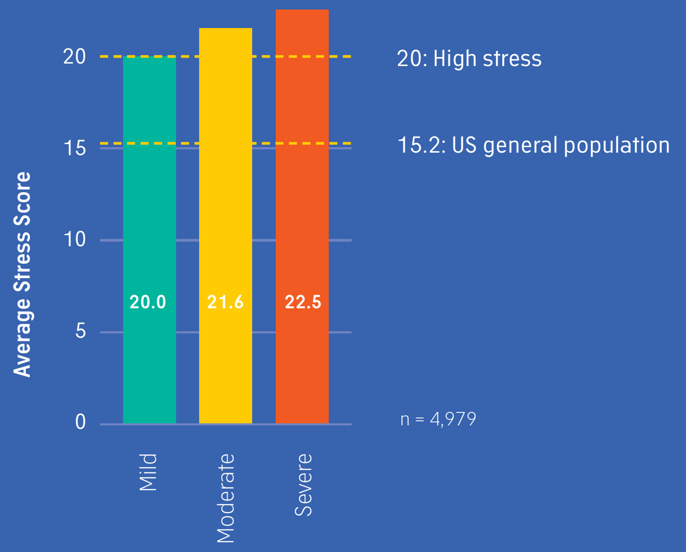
[37] n = 9,656

[38] n = 2,000 (Cohen, Sheldon & Janicki-Deverts, Denise (2012) Who's Stressed? Distributions of Psychological Stress in the United States in Probability Samples from 1983, 2006, and 2009)



Stress doesn't discriminate

Naturally, we see a link where people with more severe cases of self-reported severe psoriasis report higher stress levels. But this relationship is not as strong as one would expect.

All severity classifications exceed the US benchmark and the high-stress threshold. Therefore, stress becomes a factor of importance for all people living with psoriasis regardless severity. In addition, we see the same pattern when we compare stress levels across socioeconomic status and age.

Stress is the best predictor of unhappiness

Our data proves that stress is the best psychological predictor of unhappiness - regardless of whether we conceptualise happiness as life evaluation or daily emotions[39].

If we draw our attention to stress alone, we see that it is twice as important for life evaluation than disease severity. This proves that although severity matters, stress is a prevalent and notable impactful factor for people living with psoriasis.

Our findings indicate that as far as daily emotions and experiences are concerned, stress also affects the well-being of people with psoriasis – even more so than income, education and employment. In fact, in terms of daily emotions and experiences, both socio-economic status and disease severity seem to have very little impact.

Looking at the global inequality in life evaluation, differences in stress together with differences in loneliness and severity account for more or less the same explanation as differences in socioeconomic status.

In Chapter 2, we investigate this matter further and reveal how relieving stress and building resilience are the best tools for promoting happiness.

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[39] Table A in appendix

The role of social support in reducing lonelinesss

Social support is often regarded as a key driver of happiness. In this section, we explore how social support is linked to happiness for people living with psoriasis, and examine whether this disease impacts social relationships. We find that social support – especially support from family – greatly matters for happiness. That said, we also find that loneliness is an extremely prevalent and impactful factor, which may not be relieved by social support alone.

According to the *World Happiness Report 2017*, social support is a critical indicator of happiness. In fact, improving social support within a country has substantially more potential to increase happiness than improving wealth.

When assessing social support, the World Happiness Report asks a single question: ‘If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?’.

In this study, we employed a holistic measure of social support called the Multidimensional Scale of Perceived Social Support. We asked nine questions and differentiated between social support from family, friends and a significant other.

By using this scale, we have found that family support is the single most important social factor for personal happiness.

The effect on happiness from family support is almost twice as big as the effect from friends[40].

In Latin America, only support from family seems to matter for well-being. In Southern and Western Europe, family support is also the most important factor, but support from friends is of moderate importance. Interestingly, in Russia, Northern America and Australia, support from friends exceeds the importance of support from family.

Surprisingly, we find no effect of support from a significant other on happiness in any of the regions surveyed[41].

Regardless of these regional differences, it’s clear that family support is important for happiness. What is less certain, however, is whether there’s a lack of social support in the lives of people living with psoriasis.

Kathryn, 35, UK

‘Friends and family are hugely important to me - but I don’t think they understand psoriasis.’

---

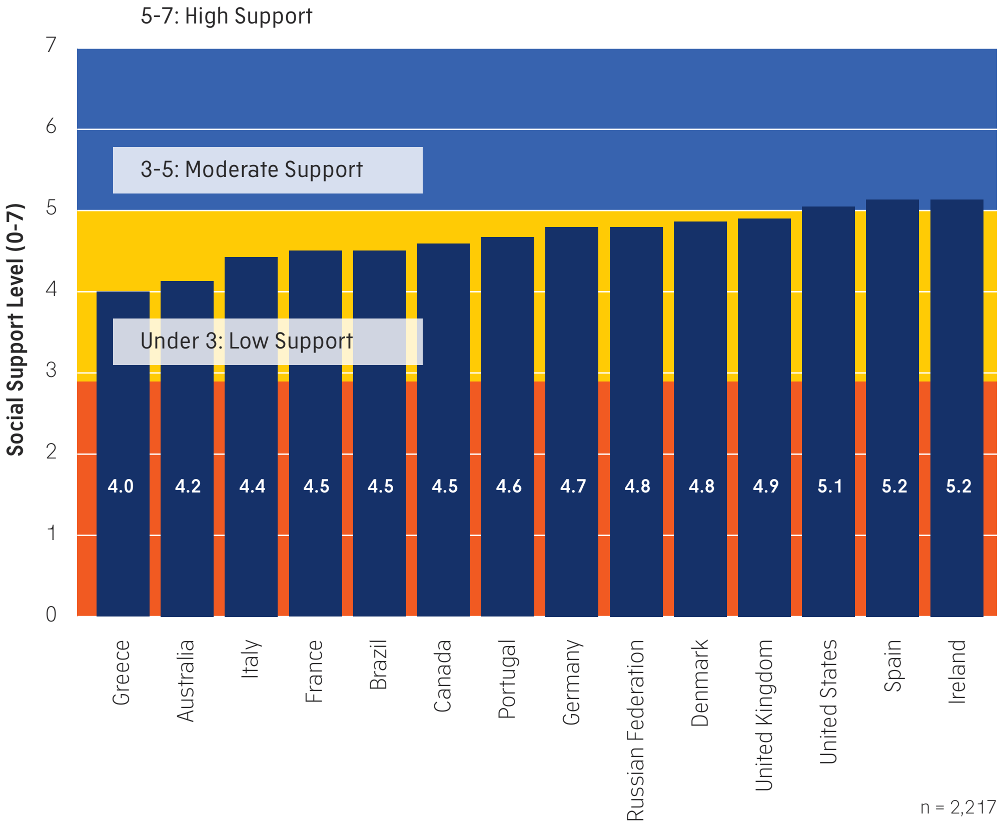
[40] Table B in appendix

[41] Table C in appendix

What's the worry?

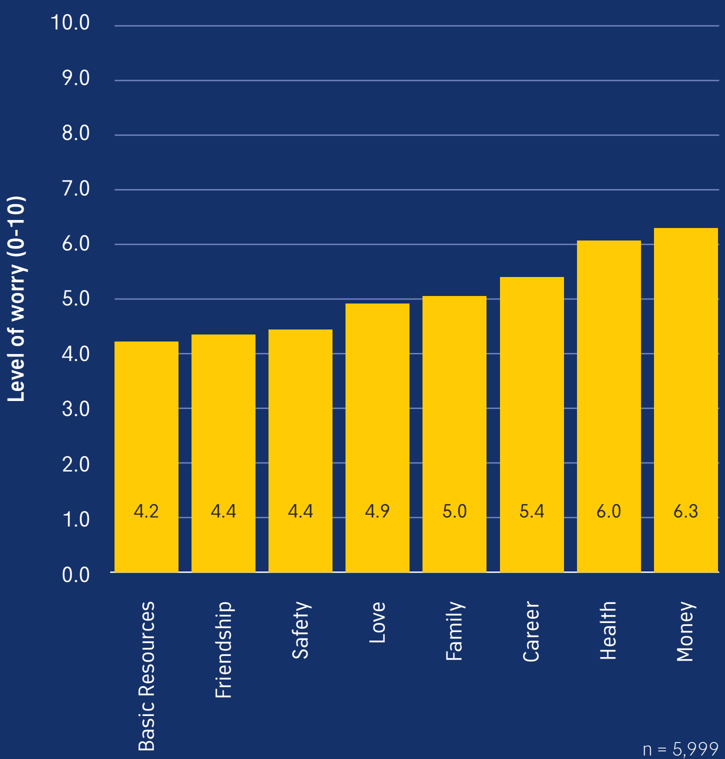
Our data suggests that on average, people living with psoriasis experience 'moderate to high' levels of social support. It's interesting to note that our data seems to indicate that psoriasis may not significantly impact levels of social support.

In this study, we have learned what people living with psoriasis tend to worry about in their lives and which areas of their lives are most affected by psoriasis. This data holds crucial insights into what really matters for people with this chronic disease.



n = 2,217

What people living with psoriasis worry about in their lives



n = 5,999

When assessing people's worries in life, we compare their worries about money, health, career, family, love, safety, friendship and basic resources.

In all countries, money, health and career comprise the top worries - which could support the notion that psoriasis causes more individualistic worries than social concerns. These worries do, however, seem to follow a pattern which is similar to the general populations'.

Therefore, many of the differences we identify can be ascribed to social or cultural traits. For example, worries about family are slightly higher in countries that can be characterised as collectivistic – such as Brazil and Portugal – and worries about safety are almost non-existent in typically safe countries such as Denmark and Norway.

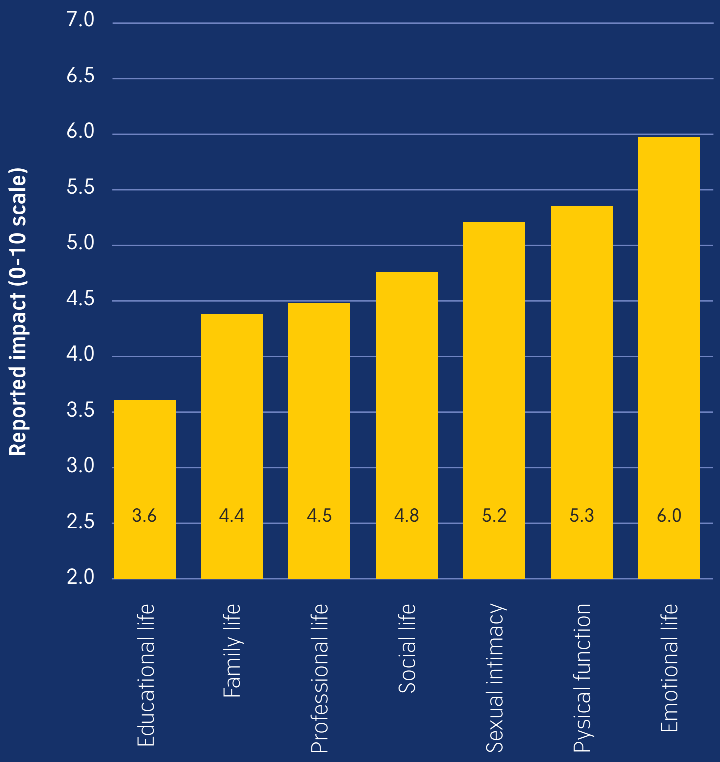
Emotional life is, on average, impacted the most by living with psoriasis

We ask respondents to pinpoint the areas of their lives that are most affected by the disease so we can get a clear picture of what matters to people with psoriasis. Then, we compare the impact on family life, social life, emotional life, educational life, physical functioning, professional career and sexual intimacy.

People living with psoriasis rated that their emotional life as more impacted by psoriasis than their physical functioning. Considering the insights about emotional issues like stress and loneliness already presented in this report, this may not come as a surprise. The data we collected supports the claim that psoriasis cannot be solely considered as a physically-debilitating disease.

In relation to social support, we see that psoriasis has, on average, a moderate impact on social lives. But the most interesting observation is how family life – which is the main source of social support in creating happiness – is the second least affected domain. Of course, this also varies greatly between countries and regions – much like worries.

Life areas impacted by psoriasis



n = 5,651

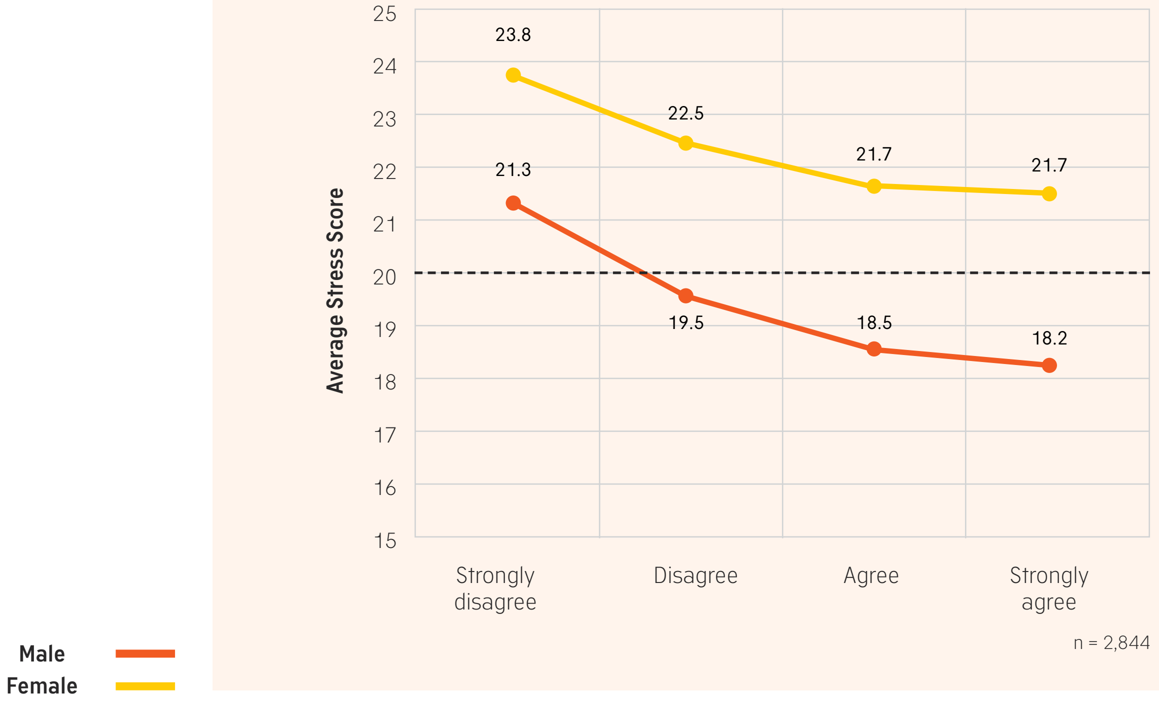
Connecting with someone else with psoriasis is crucial

> **‘I do not know anyone else who has psoriasis. I’m sure they’re out there but I’ve never met them. I wish I knew somebody with psoriasis or at least a group that was dealing with psoriasis.’**
>
> **Thalia, 57, USA**

The effect of social support on happiness and the impact of psoriasis on social life can be difficult to assess as the data doesn’t provide consistent results.

The significance of social support seems to be highly dependent on demographics, such as age and culture – a common observation among general populations too. The support people experience beyond family, friends and their significant other does seem to matter. Our data indicates that knowing someone else living with psoriasis could improve overall happiness for both men and women. This is further supported by the claim that companionship matters more than social support. This distinction is explored in the following section as we investigate the link between happiness and loneliness.

Statement: ‘I know somebody who also has psoriasis and we share thoughts and experiences’

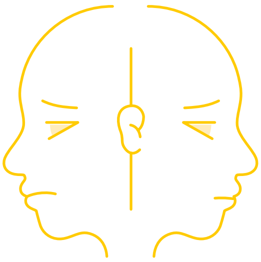


To conclude

A lack of social support doesn’t seem to be a pain point for the majority of people living with psoriasis. Yet on the other hand, we find that loneliness is widespread, ever-present and has a major impact on quality of life.

We need to talk about loneliness

Loneliness can be expressed and felt in numerous ways: in the desolation of having lost someone, the struggle in connecting to other people, the isolation of retirement, the feeling of alienation caused by a physical illness or the lack of acknowledgement of mental illness. Paradoxically, loneliness can caused by the absence of social support. But it can also coexist in its presence.



Distribution of answers on the UCLA loneliness scale:

25%

25% often feel isolated from others[42]

23%

23% often feel left out[43]

27%

27% often lack companionship[44]

Jakob, 65, Denmark

'No one in my circle understands how much I'm affected by my psoriasis. In my own mind, I think, it's comparable to leprosy in the Middle Ages...'

Keneth, 39, Canada

'I've given up on the idea of a support network. People can't deal with chronic illness. I've lost friends and family members to them thinking I'm just lazy, or scamming the system, or making too big a deal out of nothing.'

When we measure loneliness, we apply the UCLA Loneliness Scale which asks three questions related to loneliness and provides a score of 3 - 9, where a higher score indicates more loneliness. We find that the average loneliness score varies from 5.2 in Russia to 6.4 in the United Kingdom. And we find that, in all countries, people with psoriasis are experiencing levels of loneliness way beyond what is considered 'normal'. In Denmark, for example, people living with psoriasis report an average score of 5.5 while the general population only scores 3.8 – a difference of 31%[45]. Loneliness also affects people regardless of their age, disease severity and socioeconomic status.

We adopted the most conservative interpretation of the loneliness scores[46]. Even using this interpretation, 33% of all surveyed people living with psoriasis can be considered lonely[47]. These numbers vary a lot between countries, however. In Portugal, 21% are considered lonely[48] while in UK almost half of all people living with psoriasis (48%) show signs of loneliness[49].

But what are the ways that increased social support can limit the degree of loneliness felt by an individual?

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42 n = 5,668

43 n = 5,689

44 n = 5,789

45 Danish general population: n = 33.285 (Lasgaard M, Friis, K. Ensomhed i befolkningen (2015) forekomst og metodiske overvejelser. Temaanalyse, vol. 3, Hvordan har du det?, Aarhus: CFK – Folkesundhed og Kvalitetsudvikling

46 Examples of establishing a minimum score for loneliness: A total score of at least '4' (Chalise, Kai, & Saito, 2010), '6' (Hand et al., 2014; Shiovitz-Ezra & Ayalon, 2012) and '7' (Boehlen et al., 2014). We have picked the ladder, which is the most conservative approach. It means that the respondents have to answer at least 'often' to one of the 3 questions and at least 'sometimes' to the other two. Source: Boehlen, F., Herzog, W., Quinzler, R., Haefeli, W. E., Maatouk, I., Niehoff, D., et al. (2014). *Loneliness in the elderly is associated with the use of psychotropic drugs*. International Journal of Geriatric Psychiatry.

47 n = 5.316

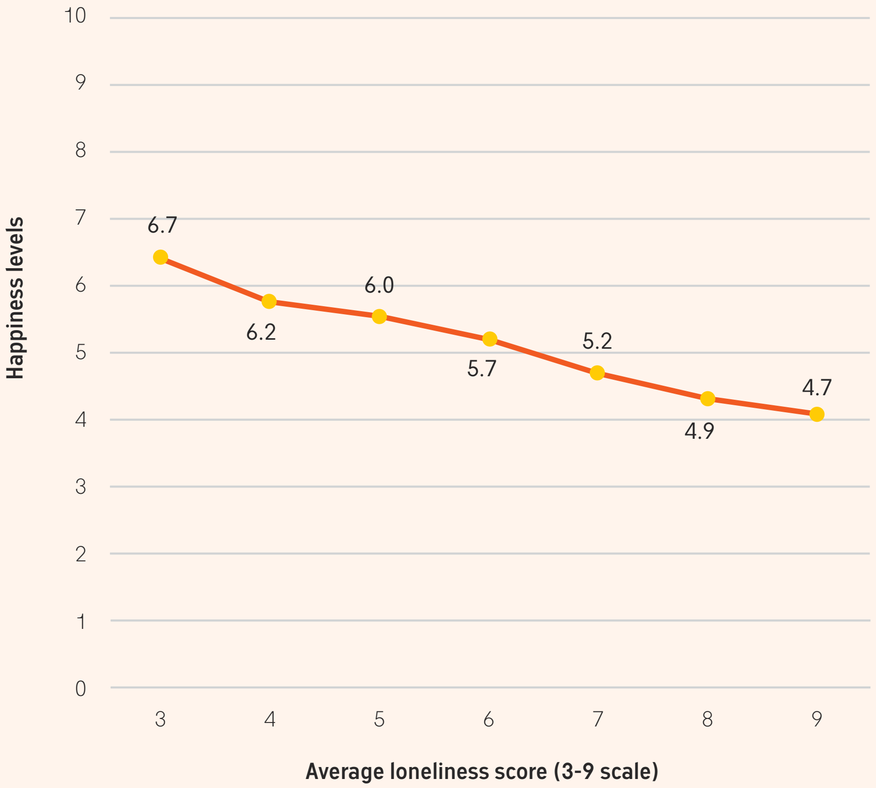
48 n = 330

49 n = 240

Perceived happiness decreases with the level of perceived loneliness.

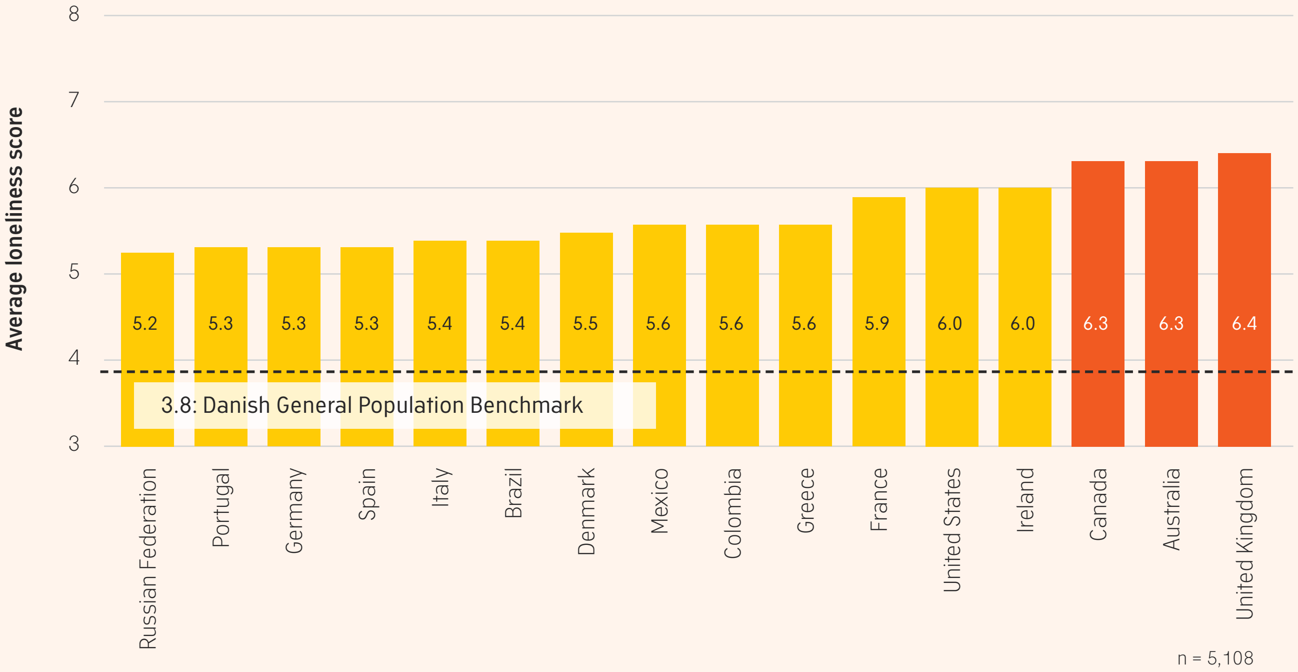
People who do not experience loneliness (a score of 3 on the horizontal axis) report an average happiness level of 6.7. People who are living with loneliness (a score between 7-9) report average happiness levels from 5.2 to 4.7.

Happiness and average loneliness score



n = 5,316

Average loneliness scores per country



n = 5,108

In this study, we have tested the mediating effect of social support on the link between loneliness and happiness. The results are rather surprising[50].

Some of the effect on life evaluation from loneliness can be explained by differences in social support. However, social support only accounts for 30% of the total effect.

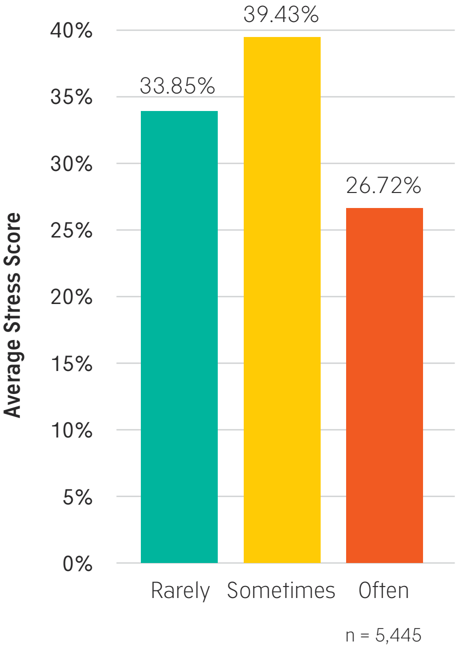
Paradoxically, this indicates that while social support impacts loneliness to some extent, it's neither the root cause nor the solution. This is further supported by the uncertainty of the impact of social support on happiness in general and the definite impact of loneliness.

Having said that, the importance of good social relationships in alleviating the effect of loneliness and stress can't be ruled out. For instance, it may be that the positive effect from social relationships comes from social companionship rather than the measured social support. Research has previously shown that social support – understood as mere help – has a weak effect on reducing stress and loneliness, whereas social companionship – understood as shared leisure and recreation or discussion of common interests – has a very strong effect[51]. In the *World Psoriasis Happiness Report*, we find that 27 % of respondents lack companionship[52].

While it's still uncertain how and to what extent social support matters for well-being, loneliness remains an extremely prevalent factor. Therefore, we must explore ways to ensure inclusion and acknowledgement.

In the following chapter, we'll consider the importance of the healthcare system, and in particular, the effect of having a healthcare professional who understands the impact psoriasis has on well-being.

Statement: 'How often do you feel that you are lacking companionship?'



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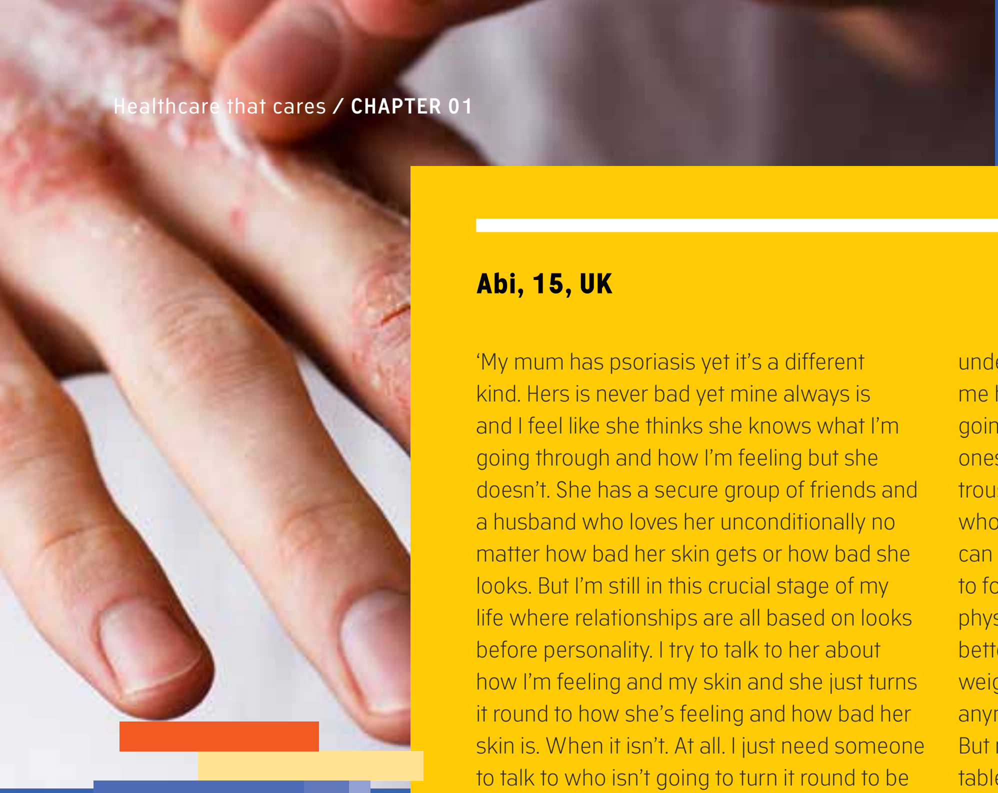
[50] Figure A in Appendix

[51] Rook, Karen (1987) *Social Support Versus Companionship: Effects on Life Stress, Loneliness, and Evaluations by Others*. Journal of Personality & Social Psychology. 52(6):1132-1147

[52] n = 5,725



Abi, 15, UK

'My mum has psoriasis yet it's a different kind. Hers is never bad yet mine always is and I feel like she thinks she knows what I'm going through and how I'm feeling but she doesn't. She has a secure group of friends and a husband who loves her unconditionally no matter how bad her skin gets or how bad she looks. But I'm still in this crucial stage of my life where relationships are all based on looks before personality. I try to talk to her about how I'm feeling and my skin and she just turns it round to how she's feeling and how bad her skin is. When it isn't. At all. I just need someone to talk to who isn't going to turn it round to be about them. It sounds bad but I want someone to go through what I'm going through so they know how hard it is, cause no one truly understands. I have doctors and nurses telling me how I'm brave and they know what I'm going through, but they don't. They're not the ones who have to wear long sleeve tops and trousers in the summer. They're not the ones who dread summer because everyone else can get their bodies out but you can't. So I turn to food and I eat my feelings away, until I'm physically sick and somehow it makes me feel better. But I'm just putting on more and more weight and I just have nothing going for me anymore. At least I used to have a good body. But now I have shit skin. The side effects of my tablets make me feel like I'm no longer me. My hair's falling out, I'm flaky all the time, I'm either anxious or depressed or I just don't feel anything. I just want to be normal.'

Healthcare that *cares*

Health inequalities cause major happiness inequalities within and between countries. To solve these inequalities, we must look at the underlying social determinants. Furthermore, our data suggests that promoting understanding, acknowledgement, and awareness of how psoriasis impacts well-being may take us quite far in bridging these health-related happiness gaps.

According to the World Health Organization, health inequalities are defined as:

'Avoidable inequalities in health between groups of people within countries and between countries. These inequities arise from inequalities within and between societies. Social and economic conditions and their effects on people's lives determine their risk of illness and the actions taken to prevent them becoming ill or treat illness when it occurs'[53]. These health inequalities, for instance, cause a spread of life expectancy of 48 years *among* countries and 28 years *within* countries[54].

On a global and local level, differences in socioeconomic status are the primary social determinant of health inequalities. In other words, that the worst health can be found among the poorest of the poor countries, and the best health among the richest of rich. This is also the case *within* countries, where an individual's own socioeconomic position is strongly correlated with their health[55].

For people living with psoriasis the same logic applies: as we move up the socioeconomic ladder, fewer people report having severe psoriasis – from 24% for people with low socioeconomic status[56] to 10% for people with high socioeconomic status[57].

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[53] http://www.who.int/social_determinants/thecommission/finalreport/key_concepts/en/

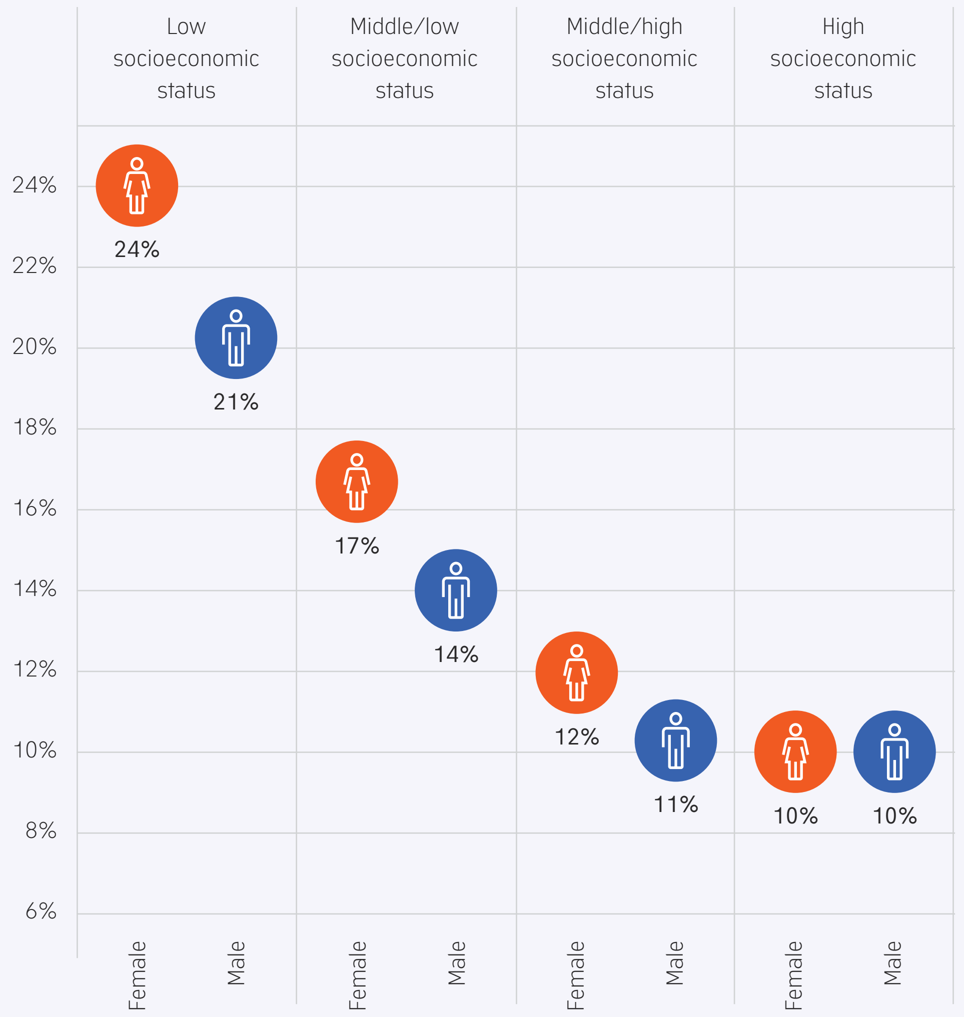
[54] Marmot, M. (2005). *Social determinants of health inequalities.* The Lancet, 365(9464), 1099-1104

[55] http://www.who.int/social_determinants/thecommission/finalreport/key_concepts/en/

[56] n = 3,705

[57] n = 6,859

Percentage of people considering themselves severe cases of psoriasis



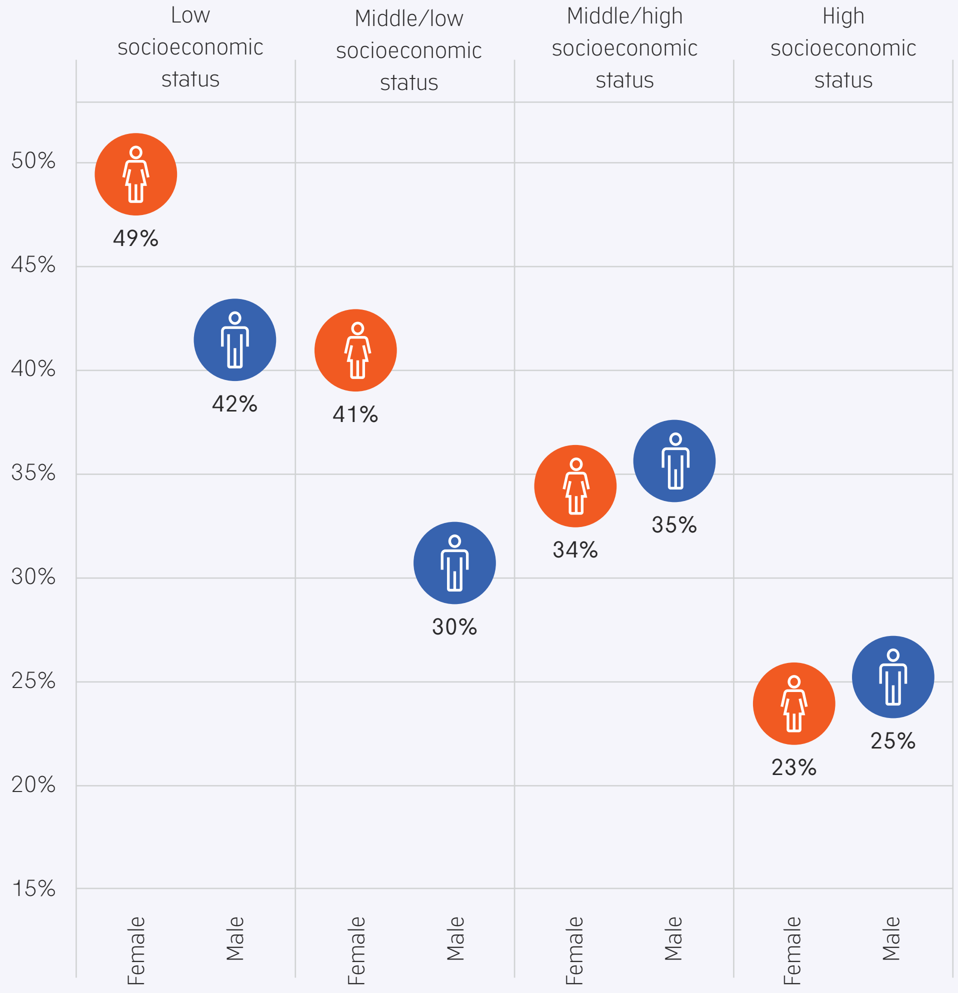
n = 3,193

According to the *World Happiness Report*, the channels of these effects are not yet widely understood. However, healthy behaviour, better nutrition and access to healthcare are often thought of as the primary drivers.

In this study, we have examined the ladder – how differences in socioeconomic status affect how easy it is to contact your healthcare professional (HCP). The results show significant differences. For instance, less than a fourth of the high status women find it hard to contact their healthcare professional (HCP) when they're in need.

However, half of the low status females report difficulty in contacting their healthcare professional.

Percentage of those who disagree that they can get in touch with their healthcare professional when in need



n = 1,510

‘Could you just care a little?’

Sam, 30, USA

There is no question that these inequalities in socioeconomic status and access to healthcare are strongly related to inequalities in health. This calls for more and better access to healthcare.

However, our study proves that health inequalities cause serious inequalities in quality of life - as well as differences in life expectancy, prevalence of long-term disabilities and perceived severity.

This is true both *between* and *within* countries (see more in Chapter 3).

Socioeconomic differences do not account for all happiness inequalities. To some extent, misery could be alleviated through more understanding and acknowledgement by the wider healthcare system (HCS) and individual healthcare professionals.

Many people living with psoriasis experience challenges with the healthcare system and their healthcare professionals. Unsurprisingly, these people also tend to be less happy.

We have identified issues related to both access and trust. This is based on the responses to a set of agree/disagree statements which were designed to give a comprehensive understanding of how people’s relationship to their HCPs are related to happiness.

Access

64%

64% don't think that the system provides enough financial support[58].

33%

33% have problems getting in touch their HCP when in need[59].

Trust

30% Almost a third (30%) don't always follow the advice of their HCP[60].

38% 38% don't think their HCP takes their psoriasis seriously enough[61].

38% More than a third – 38% – don't think that HCPs adequately explain information regarding psoriasis treatment[64].

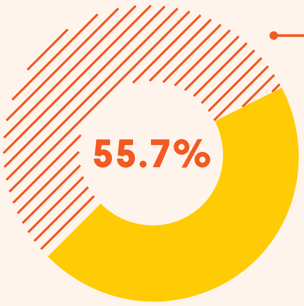
42.1%

42.1% don't have confidence in the abilities of their HCP to treat psoriasis. Tellingly, they experience more than double the happiness gap (12.8% compared to 6.2%) of those with who have confidence in their health care experience[62].

53%

53% disagree with the statement[65].

'In my experience, improving my health is the main goal of the healthcare system'.



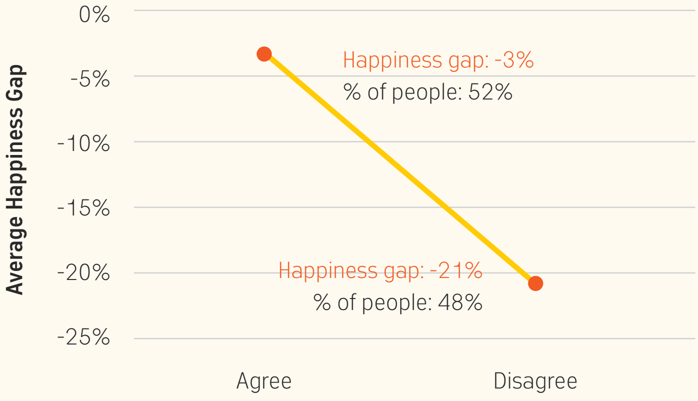
More than half – 55.7% – don't think they have been informed about all the different treatment options related to their psoriasis[63].

These numbers show a clear division between satisfied and dissatisfied respondents - both imply a need for action.

One particular statement is of great concern though: the question of whether healthcare professionals fully understand the impact psoriasis has on one's mental well-being. The responses show a marked divide – in terms of percentage of people (roughly 50% agree and 50% disagree), and happiness (whether respondents agree or disagree that it has an enormous effect on happiness) – indicating a happiness gap ranging from a substantial 21% to a mere 3%.

Statement: 'My healthcare professionals fully understand the impact psoriasis has on my mental well-being'

% of people who agree / disagree with statement



n = 5,705

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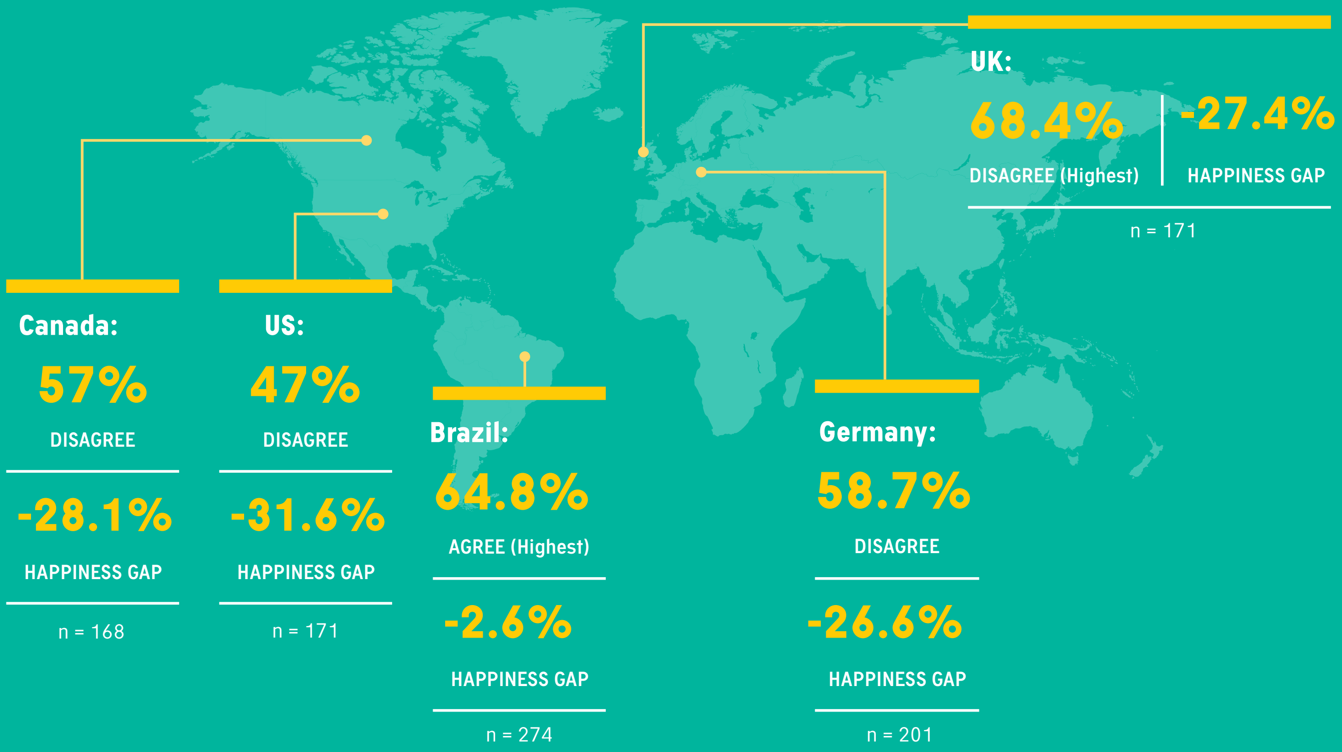
[58] n = 5,774
[59] n = 5,827
[60] n = 5,972
[61] n = 6,202
[62] n = 6,091
[63] n = 5,736
[64] n = 6,027
[65] n = 5,693

Statement: ‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’



UK:
68.4% DISAGREE (Highest)
-27.4% HAPPINESS GAP
n = 171

Canada:
57% DISAGREE
-28.1% HAPPINESS GAP
n = 168

US:
47% DISAGREE
-31.6% HAPPINESS GAP
n = 171

Brazil:
64.8% AGREE (Highest)
-2.6% HAPPINESS GAP
n = 274

Germany:
58.7% DISAGREE
-26.6% HAPPINESS GAP
n = 201

Some differences by country:

UK:
68.4% disagree to the statement (the highest percentage); happiness gap -**27.4**%

US:
47% disagree; happiness gap -**31.6%** (the highest gap on this statement)

Canada:
57% disagree; happiness gap -**28.1%**

Germany:
58.7% disagree; happiness gap -**26.6%**

Brazil:
64.8% agree (the highest percentage); happiness gap **2.6%**. Of those who disagree, the happiness gap is -**13.7%**

Some of these differences are due to socioeconomic inequalities. The richer you are, the less your happiness is affected if your doctor doesn’t understand how psoriasis impacts your mental well-being.

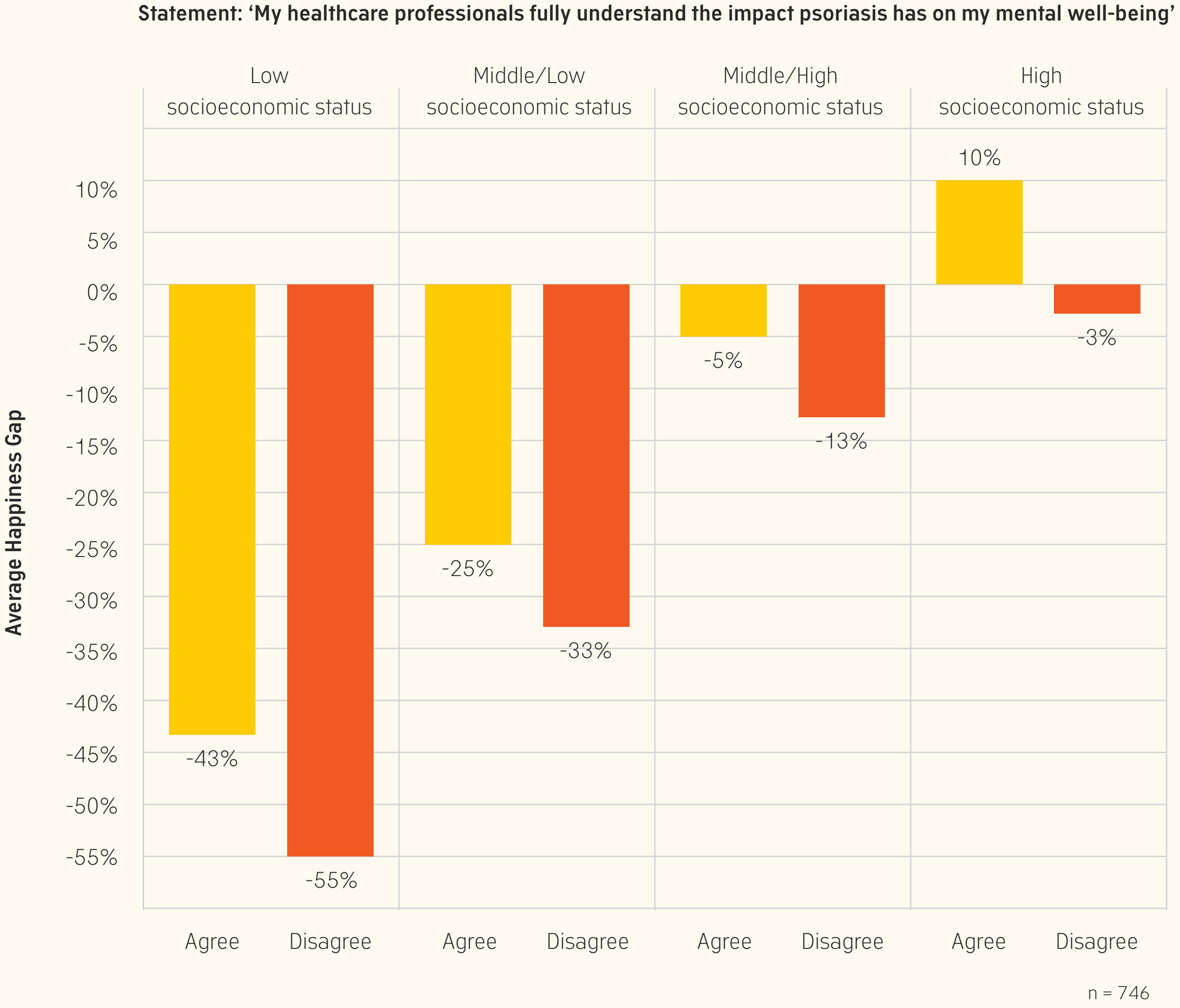
That said, in the cases of Northern America and Australia, we find that the level of understanding from HCPs is associated with levels of happiness, daily emotions, loneliness and stress regardless of socioeconomic status.

Effect of the relationship with the healthcare professional on happiness

Although the negative happiness gaps are elevated greatly for people higher up the socioeconomic ladder, significant inequalities occur within all socio-economic sections.

For instance, people who position themselves on the bottom of the socioeconomic ladder experience a 12% bigger happiness gap if their HCP does not understand their struggles. And people living with psoriasis who have the best jobs, best salaries and best educations are happier than the general population only if they have a HCP who understands the impact psoriasis has on their mental well-being.

It is worth noting that being higher on the the social ladder only brings a similar level of happiness as the average Canadian, Australian or American. In other words, psoriasis puts a very definite limit to how happy someone can become - even if they’re wealthy.

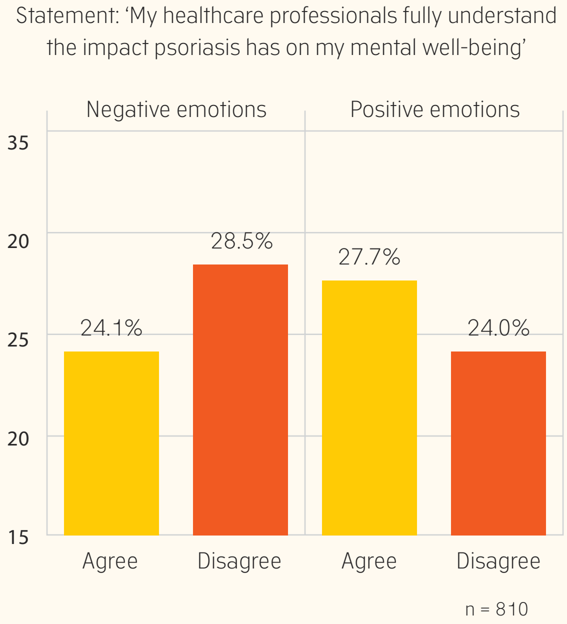


Effect of the relationship with the healthcare professional on daily life emotions

For daily life emotions, we seem to find a similar pattern where socioeconomic status promotes positive emotions and reduces negative emotions.

However, the significance of the effect of socioeconomic status on daily life emotions is very weak for positive emotions and non-existent for negative emotions. What does seem to be significant, however, is the differences between people who agree and disagree that their HCP understands the mental impact of the disease.

People who agree that their doctor fully understands their condition experience lower levels of negative emotions and higher levels of positive emotions. The biggest impact is on the negative emotions.



Effect of the relationship with the healthcare professional on stress and loneliness

Finally, having a healthcare professional who understands how psoriasis impacts your mental well-being is also highly associated with decreased loneliness and stress. Again, we find that these issues are somewhat alleviated by climbing the socioeconomic ladder.

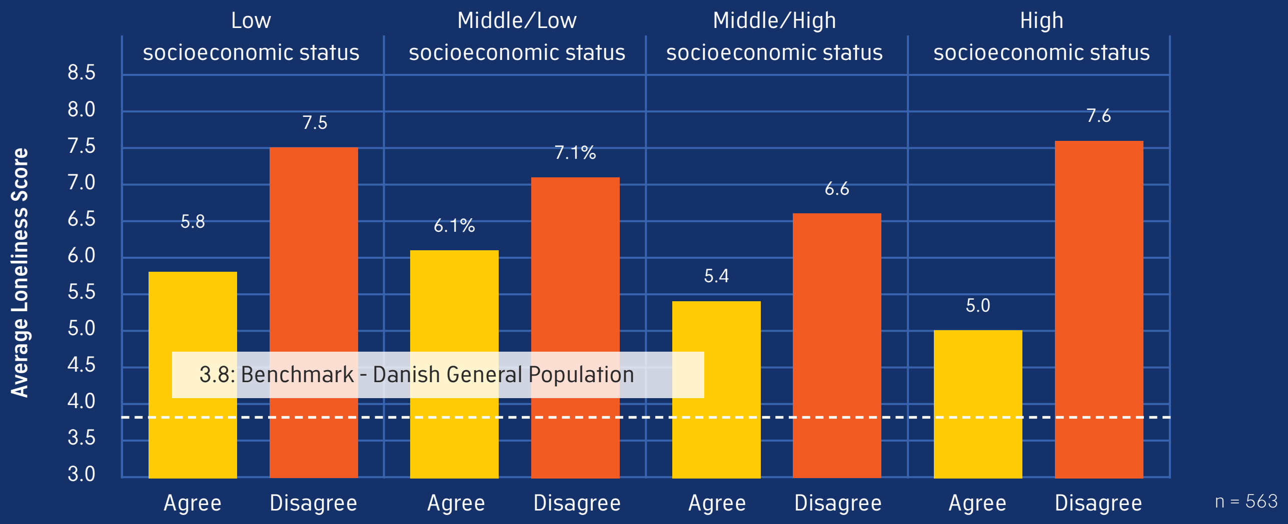
In the case of stress, the underlying biological mechanism linking socioeconomic status and stress has been previously confirmed by Sheldon Cohen, indicating that lower socioeconomic status was associated with higher levels of stress hormones[66].

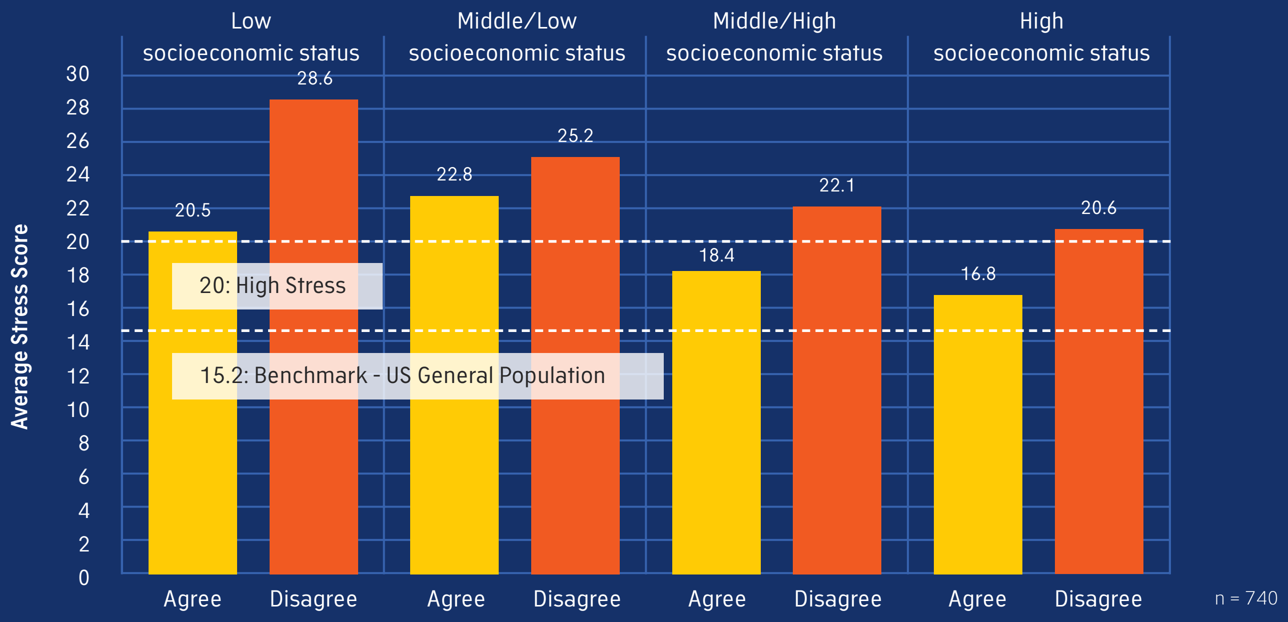
However, there is also evidence that the opposite holds true: that stress is strongly related to higher socioeconomic status[67].

The main takeaway is that stress and loneliness are notably prevalent among all people living with psoriasis.

To put it differently, having psoriasis is linked to high stress and loneliness no matter how high you climb the social ladder. The good news is that the negative effect of psoriasis on loneliness and stress can be relieved by having an understanding healthcare professional.

Statement: 'My healthcare professionals fully understand the impact psoriasis has on my mental well-being'





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[66] Cohen, S., Doyle, W., & Baum, A. (2006). *Socioeconomic status is associated with stress hormones*. Psychosomatic Medicine, 68, 414–420.

[67] Hamermesh, D., & Lee, J. (2007). *Stressed out on four continents: Time crunch or yuppie kvetch?* The Review of Economics and Statistics, 89, 374–383.

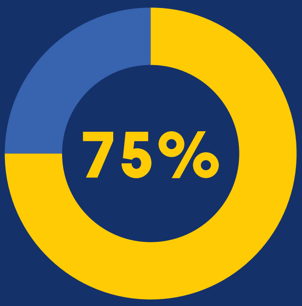
Towards global acknowledgement and awareness

While lifting people from the bottom of the socioeconomic ladder and providing better access to healthcare are both key drivers in reducing health and happiness inequalities, they don't fully alleviate them.

Better understanding from the healthcare professional on how psoriasis impacts mental health is crucial if we are to bridge these gaps.

Furthermore, acknowledgement, understanding and awareness of psoriasis and its effect on well-being should not be restricted to the healthcare system and the healthcare professionals. Our data shows that 75% of everyone living with psoriasis disagrees that there is sufficient awareness on their condition. These people report a happiness gap of of 12%.

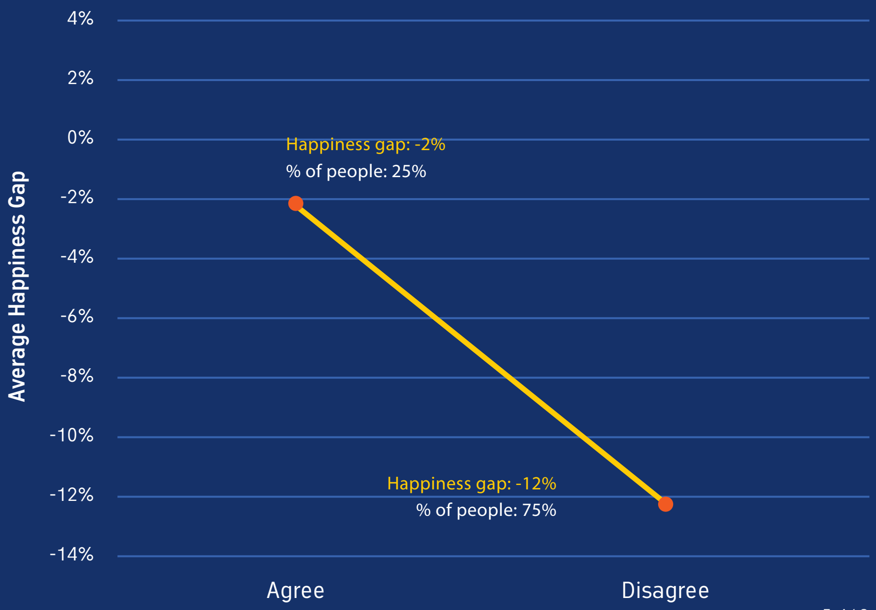
Also, as some respondents told us, lack of awareness sometimes comes with bullying, shame, and low self-esteem. It even affects their family, friendships and career.



75% of everyone living with psoriasis disagree that there is sufficient awareness on their condition

-12% And they report a -12% happiness gap

Statement: 'There is sufficient public awareness regarding my disease'



n = 5,469

Stories shared by people living with psoriasis:

Floriana, 34, Canada

I worked in long term care and was told I was 'abusing' residents because they don't know what's all over me and may be afraid I'm contagious and they don't know how to ask. So at 19 yrs old I was told I should be on disability because I was a threat to my clients.

Nicola, 47, USA

I went for a massage in Austin and the therapist didn't know that psoriasis was not infectious... she didn't want to touch my skin and wore gloves to perform the massage. That was the worst I've ever been made to feel. Also, I wonder how a licensed massage therapist can not know about skin conditions...

Rose, 36, UK

My gran asking my mum if she kept separate towels for me to use when I come over! We had to explain that you cannot catch psoriasis!!!

Ruby, 49, USA

A pharmacist I worked with in the past once asked me,'what's that on your elbows?' I said, 'psoriasis.' He replied, 'OMG! I'M SO SORRY!' as if I had the worst condition known to man. Nevermind he is a hospital pharmacist and should know conditions such as mine AND supposed to be professional & sympathetic and not act as if I'm about to die right then. Not that I want sympathy, 'cause I don't.

Alice, 27, UK

I had a customer ask me if I had burned myself when I forgot my long sleeved top for work one day. Rather embarrassing. But I always keep covered in public even during the summer to avoid the looks and the comments. I can't remember the last time I went swimming or could buy a nice dress in black because I always get white shoulders.

Maude, 21, UK

I am a student nurse and I had just started placement on a new ward. They sent me home after 1 hour because of my psoriasis on my arms and it was done so in an extremely unprofessional way. They were worried about the infection risk to patients even though I had no broken skin. They did not seem to have the knowledge that it was not contagious.

Stine, 34, Denmark

One time my boyfriend and I went to the beach. We sat by the water and I told him, as many times before, how much I love swimming and he said 'then do it'!! He continued and said 'Nobody will notice' (it was in a VERY good period and my skin looked much better than it sometimes does) I said 'ok, I'll do it' - took off my trousers and long sleeved t-shirt and hated it all the way until I stood there, only wearing my swim suit. I had to go to the bathroom before going in, wrapped myself up in a big towel and walked 20 meters to the public bathroom by the beach. Feeling very determined on going in the water and actually looking forward to it, I stood in line for the toilet. Behind me was two teenage girls laughing and having fun. When it was my turn I reached for the doorknob and my towel fell down a little and some of the skin on my back must've been uncovered. The two laughing teenagers immediately went from laughing to 'OMG - did you see that - OMG - that's gross - let's go and find another bathroom'... I quickly locked the door and sat on the toilet for more than 15 minutes with tears flowing down my cheeks and the shame and sadness was unbearable. I got myself together, wrapped myself in the towel and went directly to my boyfriend - put on my clothes and we rode our bikes home in silence. It was a horrible experience!! I was in a very good period skin-wise - and I finally took a chance to prove to myself that what my relatives and good friends told me was true: That I was the one who noticed my psoriasis the most and others really didn't give a shit. Shouldn't have done that!!!!!! I was 30 at the time...

These stories show the importance of promoting awareness of how a physical disease causes extreme well-being inequalities in all sectors of society. Healthcare professionals, families, friends, workplaces etc. could be part of the solution in bridging the happiness gap and reducing the levels and prevalence of stress and loneliness.

Women are struggling more

Psoriasis seems to have a greater negative impact on women. Although both men and women are very much affected physically, emotionally, and psychologically, as the following data analysis shows, women, on average, experience lower levels of happiness and higher levels of stress and are more often lonely.

According to the *World Happiness Report*, women report higher levels of happiness than men[68].

Although these differences are slight, they are statistically significant in size.

However, when it comes to living with psoriasis, the opposite holds true.

By looking at gender, we find very different happiness gap for men and women.

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[68] Helliwell, John F., Richard Layard, and Jeffrey Sachs, eds. 2015. *World Happiness Report 2015*. New York: Sustainable Development Solutions Network.

In all severity groups, men consistently score lower than women – for instance, women with severe psoriasis experience a happiness gap of -18.5%, while men 'only' experience a gap of -11.3%.

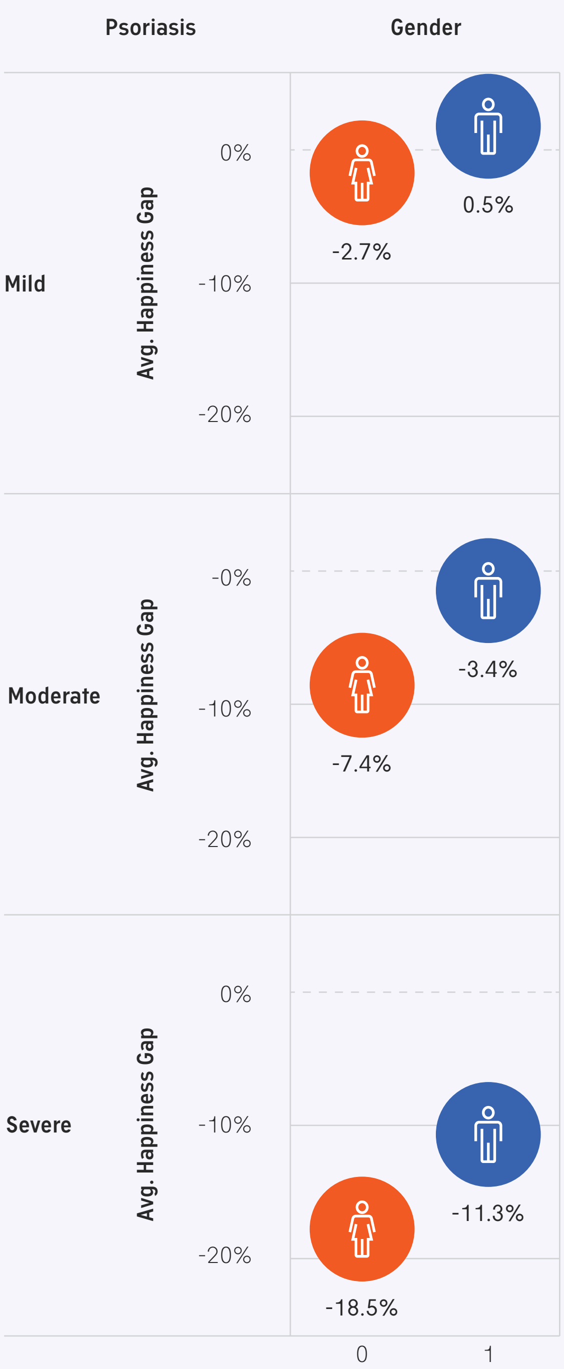
To get a clearer picture, we have grouped the scale (Cantril Ladder, where people rate their happiness relative to others on a scale from 0 to 10) into three brackets: 0 - 4, 5 - 6, and 7 - 10. The results show that 47% of women[69] place themselves in the highest, happiest bracket, compared to 52% of men[70].

What is even more interesting and concerning, however, is the fact that roughly 25% of both men and women are placed in the lowest, least happy bracket, painting a rather dismal picture.

-18.5% **-11.3%**

Women with severe psoriasis experience a happiness gap of -18.5%, while men 'only' experience a gap of -11.3%.

Happiness gaps per severity and gender



Mild: Women: n = 5,148. Men: n = 4,801.
Moderate: Women: n = 5,553. Men: n = 5,511.
Severe: Women: n = 1,479. Men: n = 1,300.

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[69] n =10,094

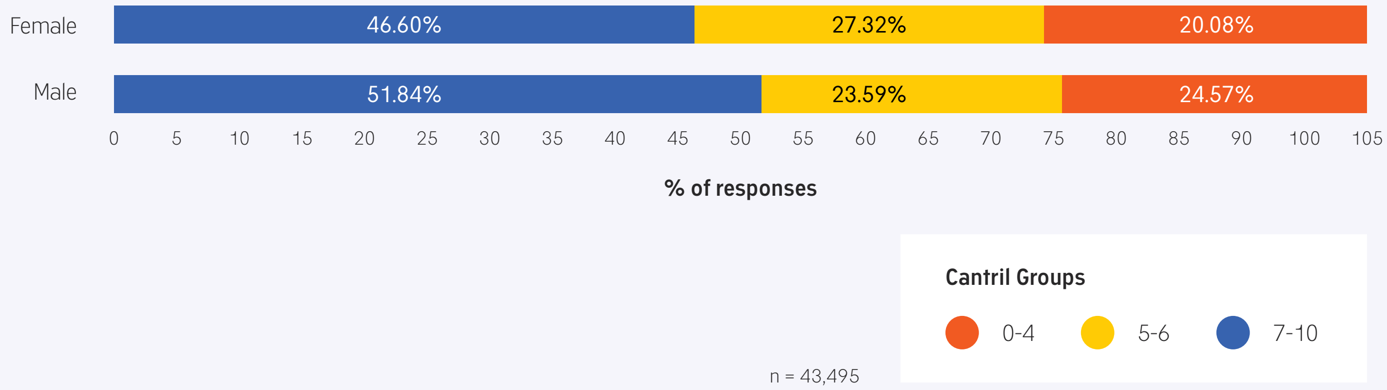
[70] n =11,207

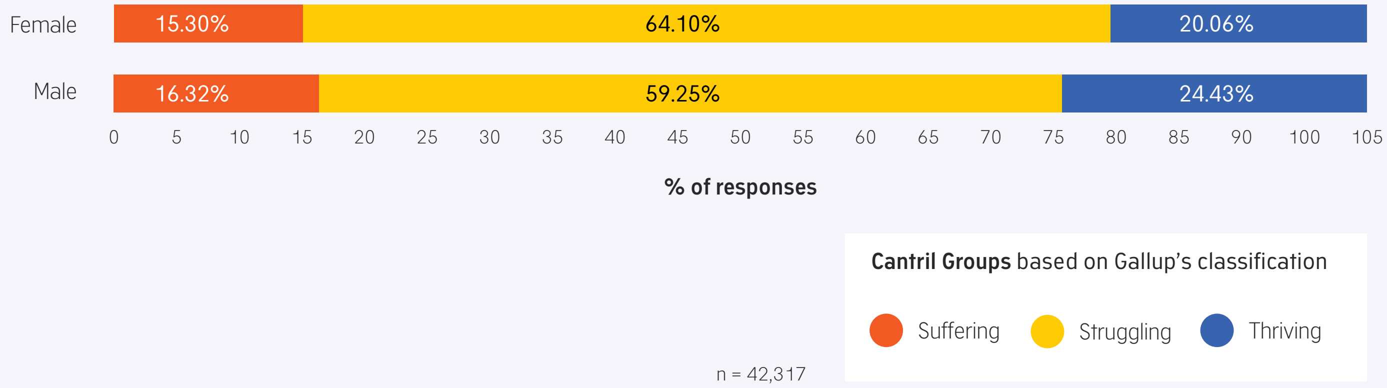
Cantril Ladder happiness brackets and gender

When we combine Cantril Ladder for people's happiness right now (which provides a 'snapshot' of the present) with that of their expectations for the future (using the same methodology as Gallup for grouping people's replies into 'thriving', 'struggling' and 'suffering'), we see very much the same picture.

As the graph below shows, 15 -16% of men and women are 'suffering' (the difference of 1% between the genders is close to insignificant). But while 24% of men fall into the 'thriving' category, only 20% of women are in this category. Once again, indicating that the ramifications of living with psoriasis for women are significantly greater. The largest group is clearly those who are 'struggling'.

Compared to the general population, the distributions for people with psoriasis are pushed towards the less happy end of the spectrum. This solidifies the hypothesis that people with psoriasis are less happy than others.





Happiness gaps by gender and affected body area

The graph below summarises how women[71] and men[72] respond differently to where on their body they have psoriasis.

The gender-related happiness gap is further supported by the fact that consistently fewer women than men feel:

1) good about themselves,
2) confident,
3) loved, and
4) able to make up their own mind about things.

---

[71] n = 20,105
[72] n = 20,256

Only 38% of women with psoriasis report that they have often felt good about themselves in the last week, compared to more than half of the men (52%). Similarly, 49% and 56% of women and men respectively reported ‘often’ when asked about feeling loved in the last week.

What really stands out is that only slightly more than one in five people feel confident - and this applies to both men as well as women. This only goes to show how psoriasis manifests itself as insecurity in a world that is ever more focused on appearance, looks and perfection.

Women are more lonely and stressed

In the same vein as above, people living with psoriasis are generally also more stressed, nervous and more easily influenced by outside factors in a negative way. By applying Cohen’s Perceived Stress Scale again, we see a clear picture that women with psoriasis are consistently worse affected and to a greater extent than their male counterparts.

For instance, more than 60% of women, or more than 3 in 5 women, report that they have very or fairly often felt nervous and stressed in the last month[73]. The corresponding amount of men is 42% (approximately 2 in 5)[74], which, although large in itself, is still significantly smaller than for women. Furthermore, when it comes to problems and difficulties, around one in four men (24%) feel that in the past month, they have fairly or very often been unable to overcome them[75]. For women, the number is 36%, equalling more than 1 in 3 feeling this way[76]. 44% of women also report that they have fairly or very often been angered by things outside of their control[77] – once again a number much larger than the 31% for men[78].

Consequently, for people living with psoriasis, a considerably larger amount of women than men are negatively affected in their ability to handle personal problems and outside factors.

Differences in levels of loneliness

So far, we have seen that psoriasis affects the stress levels, mental well-being and ability to handle problems and difficulties of a much larger percentage of women than men. In addition, women also feel more lonely. More than 1 in 4 women (25 - 28%) report that they always feel isolated, left out and lacking in companionship[79]. While still worryingly high, the corresponding amount of men ranges between 19-24%[80].

Differences in levels of self-esteem

The picture painted by the above is further confirmed when we look at feelings of pride, achievements, accomplishments, etc., as measured by the Rosenberg scale. Slightly more than 50% of women and 44% of men report that they feel useless at times[81]. Both numbers are worryingly large, but, once again, it stands out that women are more affected than men. The same is true when looking at pride: 43% of women agree or strongly agree with the statement that they feel they do not have much to be proud of, compared to 37% of men[82]. Contrasting this trend, however, is the fact that roughly 35% of both men and women alike are inclined to feel they are a failure[83].

44%

44% of women report that they have fairly or very often been angered by things outside of their control in relation to the 31% for men

1 in 4

More than 1 in 4 women (25 - 28%) report that they always feel isolated, left out, and lack companionship with the corresponding amount of men ranges between 19 and 24%

50% 44%

Slightly more than 50% of women and 44% of men report that they feel useless at times

‘I do not have much to be proud of’

43% 37%

43% of women agree or strongly agree with the statement that they feel they do not have much to be proud of, compared to 37% of men

---

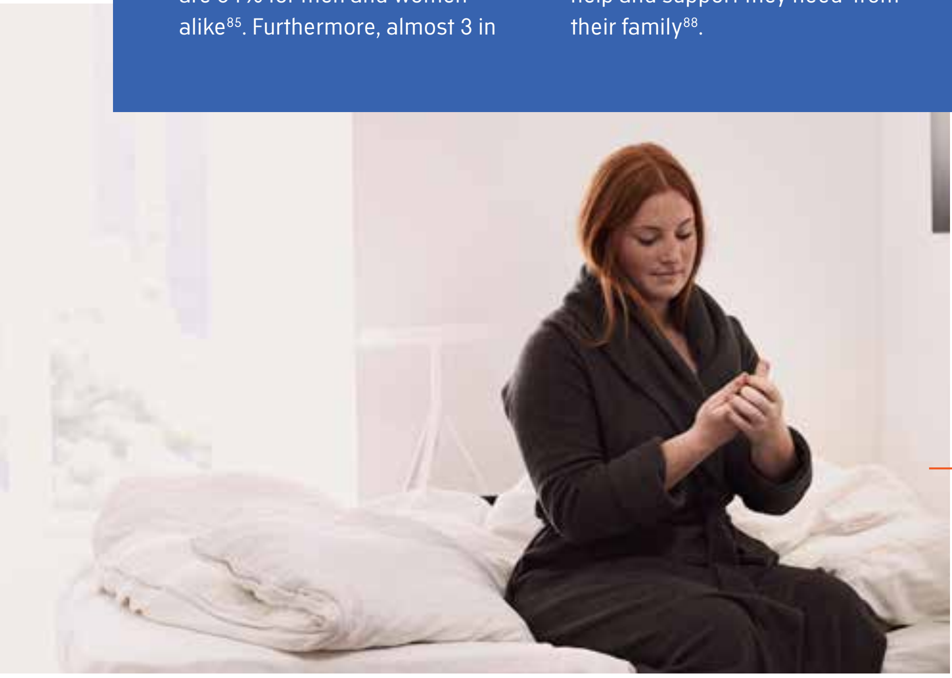
[73] n = 6,949
[74] n = 5,105
[75] n = 4,829
[76] n = 6,665
[77] n = 6,998
[78] n = 5,191
[79] n = ranging from 3,427 to 3,460
[80] n = ranging from 2,001 to 2,062
[81] Female:n=4,890,male:n=4,141
[82] Female:n=4,934,male:n=4,218
[83] Female:n=4,745,male:n=3,978

Does psoriasis impact the lives of men and women in different ways?

Next on, we take a closer look at the facets of life in which women and men may be affected by their psoriasis: emotional life, sexual intimacy, social life, physical functioning, professional career, family life and educational life.

We see a clear picture that both men and women are most affected by their psoriasis when it comes to sexual intimacy and their emotional life. In this regard, almost 40% of women and 30% of men report a significantly negative impact on their emotional life due to psoriasis[84]. As far as sexual intimacy is concerned, the numbers are 31% for men and women alike[85]. Furthermore, almost 3 in 10 women (29%) also report a significant impact on their physical functioning[86]. The aspect of life least affected by psoriasis is education, with only roughly more than 1 in 10 (12 - 13%) reporting an impact[87].

It is generally believed that having someone to talk to about one's problems can be a major benefit in feeling well. Analysis of our respondents' answers to questions of perceived social support, however, shows that roughly 15% of both men and women with psoriasis feel like they cannot talk about their problems with their friends and that they do not receive the emotional help and support they need from their family[88].



40% 30%

40% of women and 30% of men report a significantly negative impact on their emotional life due to psoriasis

3 out of 10

3 in 10 women (29%) report psoriasis has a high impact on their physical functioning

12% -13%

Education

The aspect of life least affected by psoriasis is education, with only roughly more than 1 in 10 (12-13%) reporting an impact

---

84 Female: n = 3,478, male: n = 2,158
85 Female: n = 3,417, male: n = 2,147
86 Female: n = 3,521, male: n = 2,157
87 n = 5,817
88 Female: n = 4,253, male: n = 3,476

Concluding remarks

The price of living with psoriasis

In recent years, headlines declaring that we live in 'age of loneliness' or that we are experiencing an 'epidemic of stress' have become increasingly common. If you are living with psoriasis, chances are that you are well acquainted with these feelings and emotional states.

The *World Psoriasis Happiness Report* finds variations in how people with the disease evaluate their lives, how many positive and negative emotions they experience and how much they worry about their family.

But stress and loneliness do not discriminate. They are both ubiquitous and all-pervading factors that affect the quality of life of countless of people living with psoriasis.

In this chapter, we have shown that health inequalities – represented by the difference between the general population and the population living with psoriasis – are significant and manifested in loneliness and stress especially. At the same time, we have to strongly consider the social determinants of health inequalities. Awareness understanding, and acknowledgement become vital tools in bridging the happiness gaps.

In the next chapter, we will look at the variations in happiness gaps between countries, explore their causes, and suggest ways to address these challenges.

Chapter 02:

Well-being Inequality

Well-being Inequality:

How can we bridge the psoriasis happiness gap?

Norway and Denmark are subject to major happiness gaps

In this chapter, we explore two possible assumptions why the happiness gap between people living with psoriasis and the general population varies so greatly from country to country.

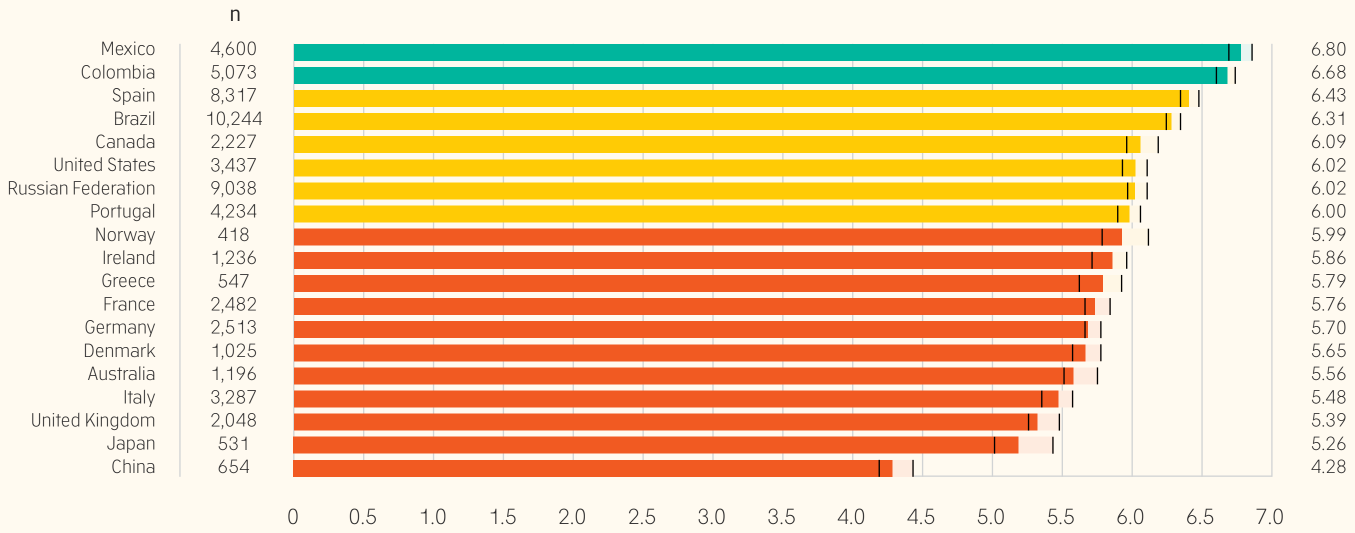
According to the *World Happiness Report*, Norwegians and Danes are the happiest people in the world. Both populations score 7.5 on a 0 - 10 scale[89]. This is explained by a high GDP per capita, a perception of low corruption, high levels of generosity, good social support, freedom to make life choices and a long life expectancy.

Although people living with psoriasis may experience some of these country benefits too, their levels of happiness are significantly lower than the general population. The psoriasis populations in Norway and Denmark are ranked as 9 and 14 respectively, with scores ranging from 5.6 to 6 (see figure 2.0).

In both countries, people living with self-perceived *severe* psoriasis report a happiness level of 4.9 (see figure 2.1). This means people with severe psoriasis in Norway and Denmark are as happy as the general population in Mongolia[90]. We can estimate Norwegians and Danes living with severe psoriasis to be 35% less happy than Norwegians and Danes in general (see figure 2.2)

If we consider people with mild and moderate disease severity, their repoted happiness levels are significantly higher. However, they never reach the level of the general population. So for people living with mild psoriasis in Norway and Denmark, the happiness gaps still range from -6.3% to -13.3%.

Figure 2.0 - Happiness ranking



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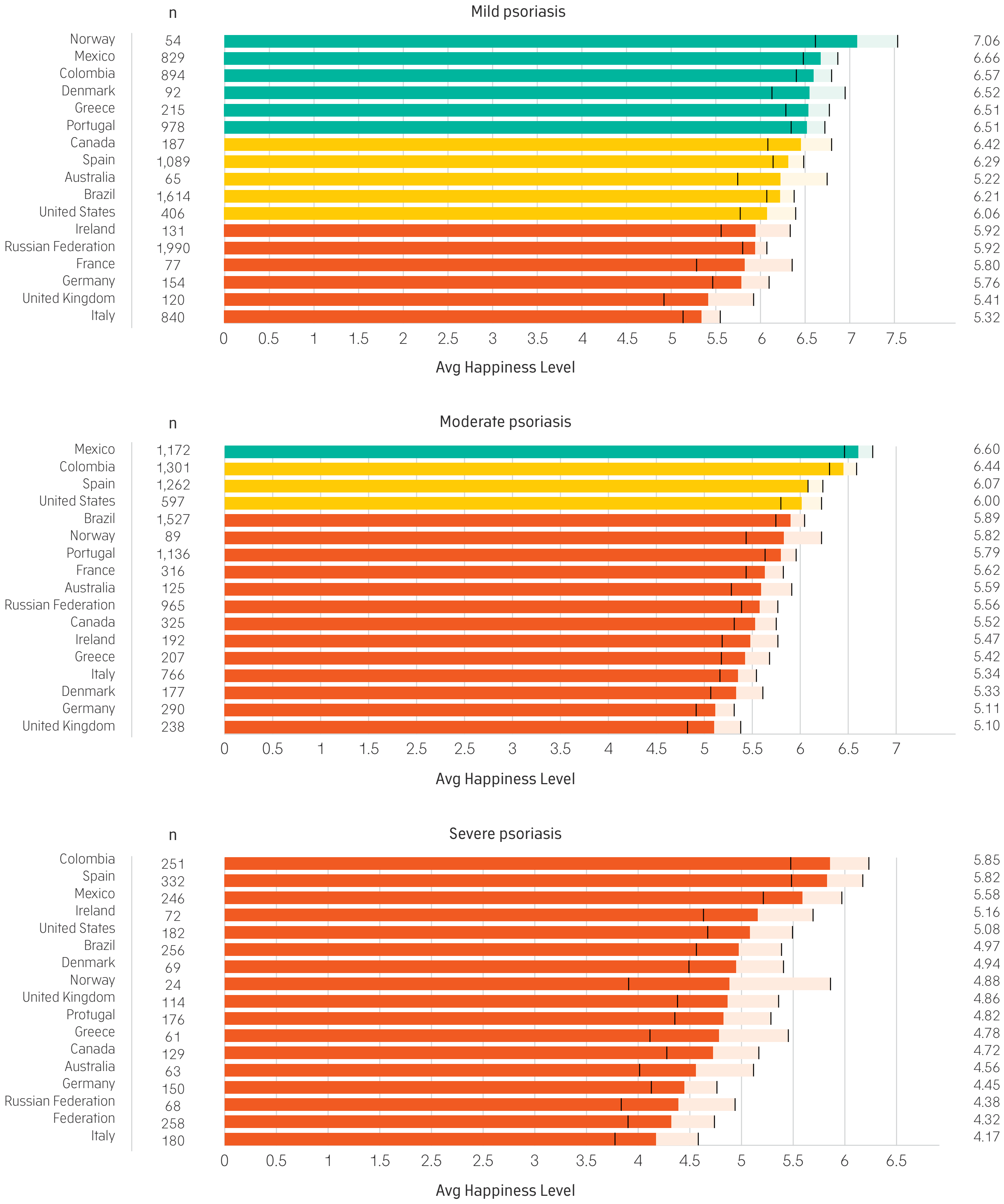
[89] Helliwell, J., Layard, R., & Sachs, J. (2017). *World Happiness Report 2017*, New York: Sustainable Development Solutions Network.

[90] Helliwell, J., Layard, R., & Sachs, J. (2017). *World Happiness Report 2017*, New York: Sustainable Development Solutions Network.

Figure 2.1 – Country ranking: Psoriasis happiness levels per severity[91]



At the top of the scale are Mexico, Colombia and Spain, where people report relatively high levels of happiness – despite living with psoriasis. If we consider only people with mild and moderate psoriasis, their scores are very similar to those of the general populations in these countries. This suggests that living with psoriasis in the Spanish-speaking countries has a minimal impact on happiness levels. However, this is not the case for people living with severe psoriasis in these countries. They report lower levels of happiness.

Figure 2.2.Country ranking: Psoriasis happiness gaps per severity

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91 It is important to note that the country sample sizes for all the three severity groups don't necessarily add up to the country sample sizes in the overall ranking. This is explained by the fact that the overall ranking includes the respondents who haven't declared their self-perceived severity.

Happiness gaps have patterns

In general, by dividing people in groups In general, we find people living with severe psoriasis are subject to a happiness gap *regardless* of where they live when we divide people into groups corresponding to their perceived severity levels.

These gaps still vary greatly – from 7.3 % less happy in Portugal up to a concerning 37.4% less happy in Australia. This variation is also present for mild and moderate psoriasis - but these categories include positive gaps for Greece and Portugal. We cover this observation further in Chapter 3.

When we study happiness scores and gaps by severity across regional classifications, we find that the happiness gap is:

- higher and more prevalent in countries in Western Europe, the Nordics and Northern America
- lower and less prevalent in countries in Latin America, Southern Europe and Russia[92].

This could strike one as a paradox. Regions like the Nordics and Western Europe are generally characterised by better access to healthcare, better life opportunities, higher levels of general happiness and the like. So, why do we see this pattern?

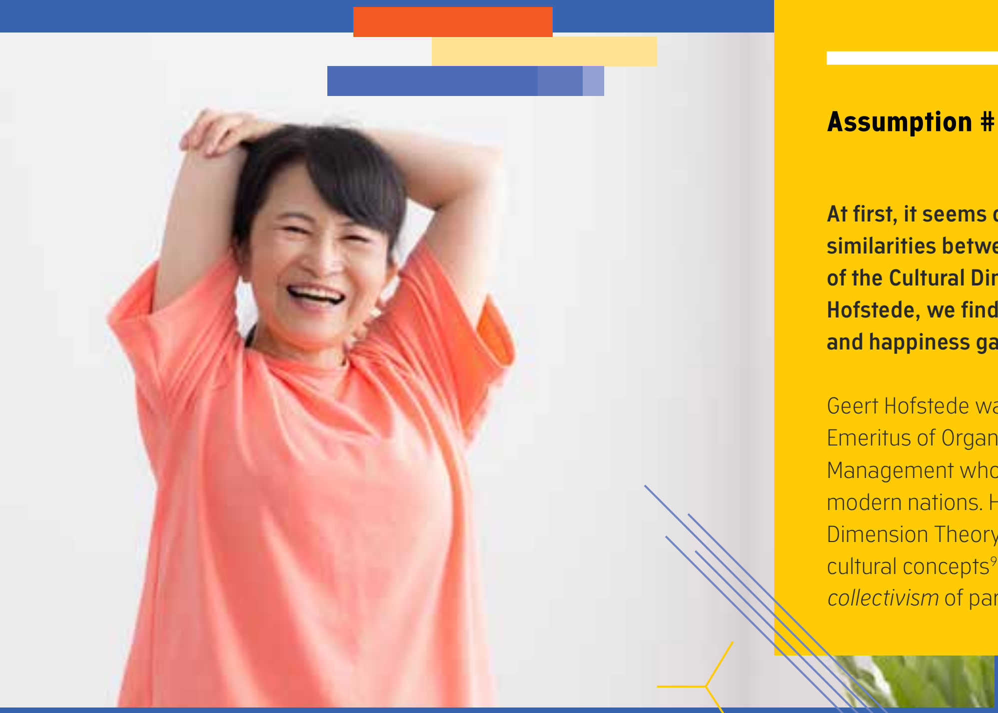
Exploring the common denominators of these two groups of regions, we find two possible assumptions that could explain this pattern: *cultural differences* and *the social comparison paradox*.

7.3%

Less happy in Portugal

37.4%

Less happy in Australia



Assumption #1 - Cultural differences

At first, it seems difficult to find strong social or cultural similarities between Mexico and Russia. But with the help of the Cultural Dimension Theory formulated by Geert Hofstede, we find a compelling correlation between culture and happiness gaps.

Geert Hofstede was a Dutch social psychologist and Professor Emeritus of Organisational Anthropology and International Management who conducted pioneering studies across modern nations. His most notable work is the Cultural Dimension Theory, where he investigates different national cultural concepts[93]. We found the concept of *individualism vs. collectivism* of particular interest.

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[92] It is important to stress that these regions only serve as categories for the 19 countries included in the analysis, and thus only as indications of the regional performance. For a complete assessment of the regional performance we would need more country cases within each geographical region.Marmot, M. (2005). S*ocial determinants of health inequalities*. The Lancet, 365(9464), 1099-1104

[93] Hofstede, G., & Hofstede, G. J. (2005). *Cultures and organizations: Software of the mind*. New York: McGraw-Hill.

Individualism vs. Collectivism

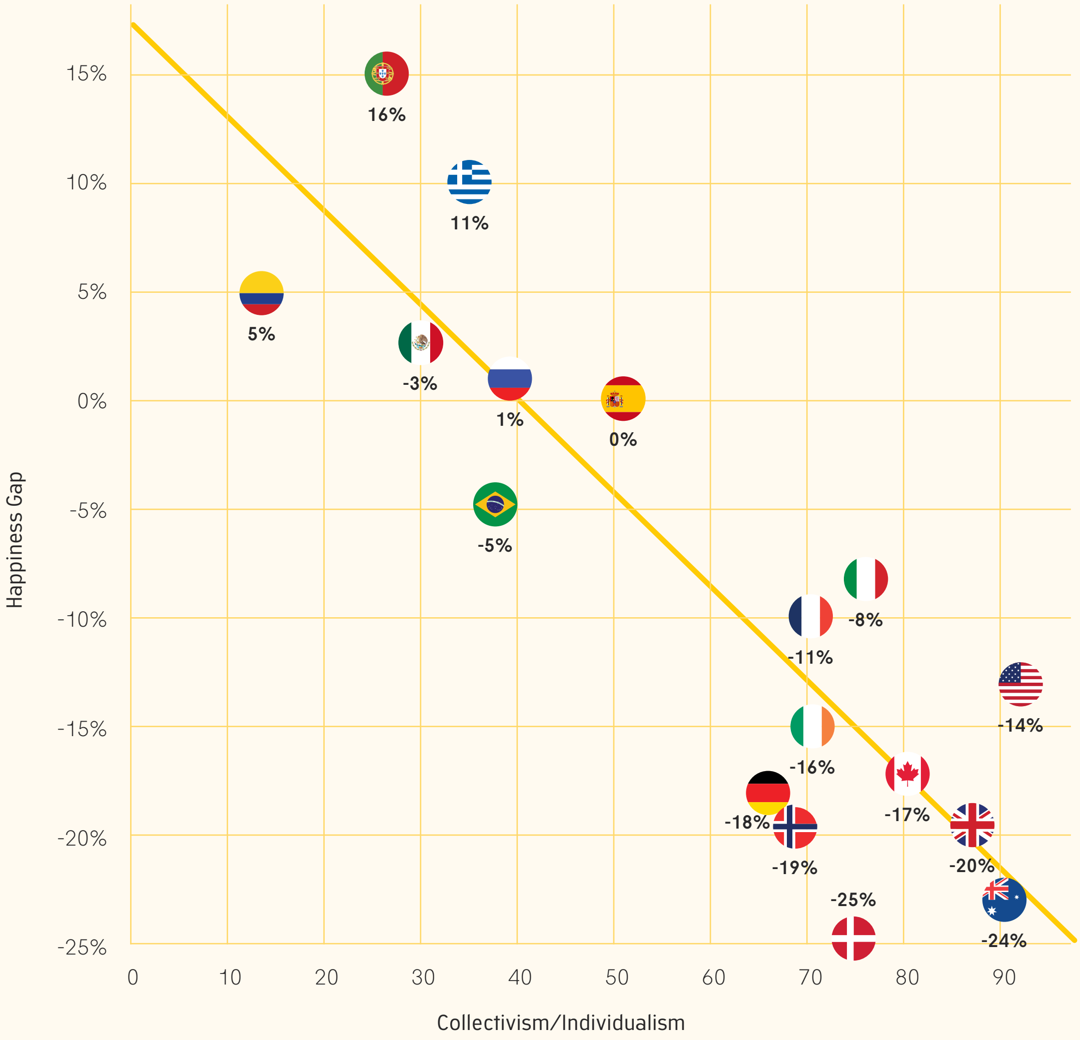
According to Hofstede, this concept represents a preference – for either individualism or collectivism – that distinguishes countries, not individuals, from each other. In the terminology of the Cultural Dimension Theory, collectivism and individualism can be defined as the following:

> *Individualism* is a preference for a loosely-knit social framework in which individuals are expected to take care of only themselves and their immediate families. Its opposite, *collectivism*, represents a preference for a tightly-knit framework in society in which individuals can expect their relatives or members of a particular in-group to look after them in exchange for unquestioning loyalty. A society's position on this dimension is reflected in whether people's self-image is defined in terms of I or we.[94]

Hofstede describes countries as being along a range between 0 - 100, not as as definitively either individualistic or collectivistic. This range is comparable to country happiness scores which range from 0 - 10.

Combining all our country data on happiness gaps with the available cultural data, we find a very strong correlation between the two.

Figure 2.3 Country differences in happiness gaps and culture for people living with psoriasis[95 96]



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[94] http://geerthofstede.com/

[95] Trend description: R-Squared: 0.749 Standard error: 0.063 p-value (significance): <0,000 (n = 9,656)

[96] This correlation between culture and average happiness gap is valid for all severity groups

Collectivistic countries are happier

All the countries characterised by small happiness gaps can also be characterised as collectivistic. Correspondingly, all countries characterised by large happiness gaps can also be characterised as individualistic.

So, for instance, countries with happiness levels similar to the general population (ie happiness gaps close to 0%), like Colombia, Brazil and Russia, and countries with significant positive happiness gaps, like Portugal and Greece, also happens to be some of the most collectivistic countries. On the other end of the scale, the most individualistic countries – Australia, the US and the UK – all have happiness gaps of -14% to -24%.

But what is the underlying cause? To understand this, we asked Geert Hofstede's co-author and son, Gert Jan Hofstede, Associate Professor at Wageningen University:

> **'In a collectivistic society, being able to fulfil one's role in that society or in the family /tribe/organisation is the main source of fulfilment, and psoriasis would not stand in its way. In an individualistic society, 'the brand me' is the main source of happiness, and psoriasis lessens brand value since you may see yourself as less beautiful and attractive.'**
>
> **Gert Jan Hofstede – Associate Professor at Wageningen University**

-14 to -24%

Australia, USA and UK:

Happiness gaps in the most individualistic countries.

The insights acquired through the use of the Cultural Dimension Theory present a strong case for looking at culture as an explanatory factor as to why the happiness gap varies across countries. It's therefore important to stress that the *social comparison paradox* and the *cultural differences theory* are not mutually exclusive. In fact, one might say that they support each other.

Assumption #2 - The social comparison paradox

A similar explanation of the variation of happiness gaps can expressed by what we call the social comparison paradox – that it is harder to live with a debilitating condition in an otherwise happy country.

This paradox often occurs in happiness research It can be applied when explaining the higher prevalence of mental health issues and even suicide rates in richer and happier regions[97].

The logic of the social comparison paradox is that people generally compare themselves to their peers and fellow countrymen. Therefore, in countries that top the happiness ranking in the *World Happiness Report* – such as Denmark, Norway, Canada and Australia – 'the happiness bar' is set higher. This makes the contrast between happy and unhappy seem and feel more extreme. What's more, if you experience misery in an otherwise happy country, it becomes harder to blame external factors.

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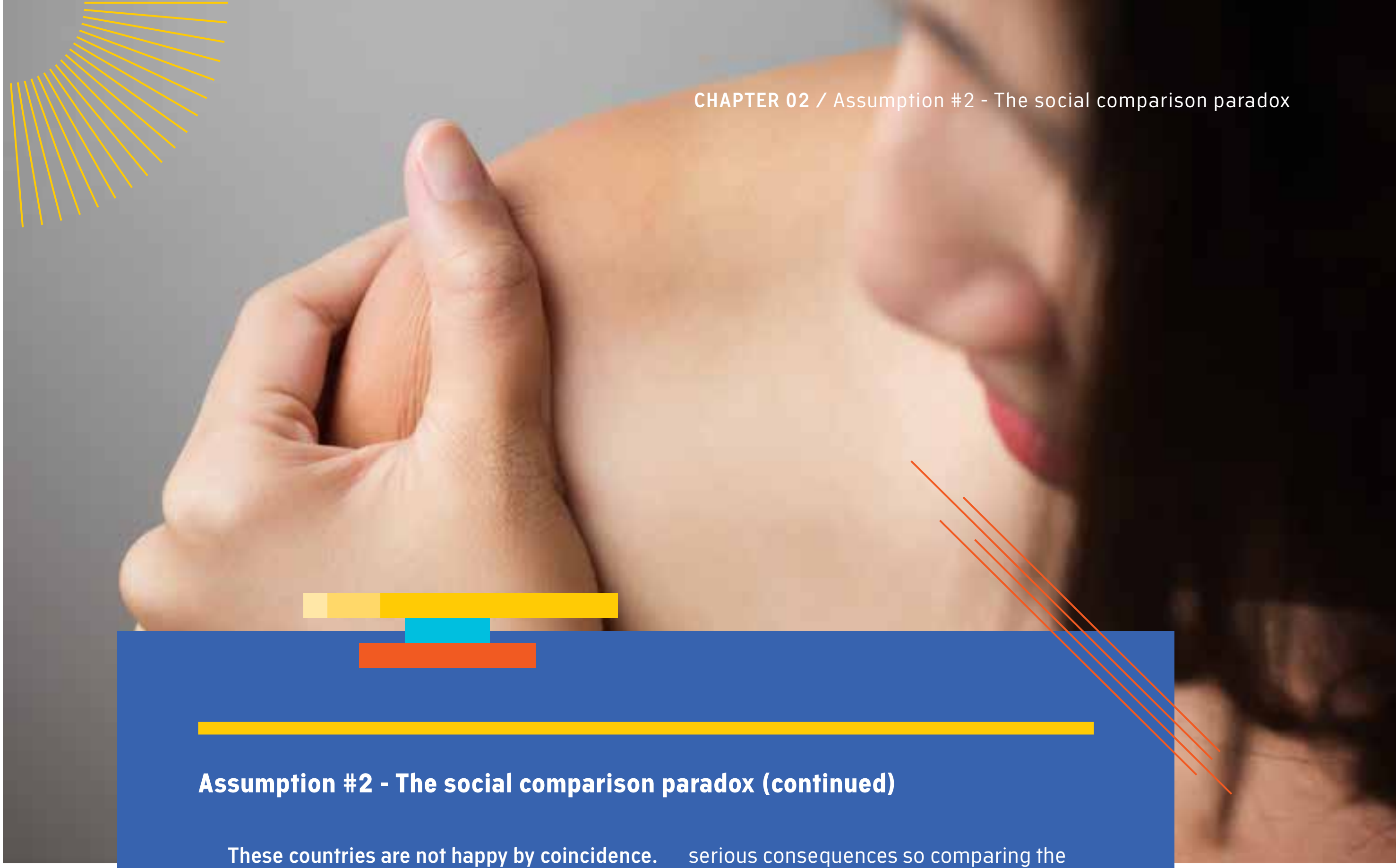
[97] Daly, Mary C., Oswald, Andrew J., Wilson, Daniel and Wu, Stephen. (2011) Dark contrasts : the paradox of high rates of suicide in happy places. Journal of Economic Behavior & Organization, Vol.80 (No.3). pp. 435-442.



Assumption #2 - The social comparison paradox (continued)

These countries are not happy by coincidence. They are happy because they fulfil a lot of the foundational criteria of happiness. For instance, these countries are characterised by relatively higher levels of trust, safety, freedom, GDP per capita, access to proper healthcare and so on. In other words, the foundations of happiness in these countries may not be perfect, but they are somewhat established.

Therefore, if life doesn't treat you well, it's harder to blame these factors, and you might be more inclined to blame yourself. Applying this to psoriasis, the logic would be that due to the absence of serious problems (like safety, for example), psoriasis becomes a primary source of misery instead of secondary. In the case of less happy countries, people conversely may be more concerned about factors such as safety and socioeconomics before considering the role psoriasis plays in their overall happiness.

It is crucial to bear in mind that human misery is a subjective experience with potentially serious consequences so comparing the underlying causes may not be a fair approach.

More importantly, looking at our data, the picture is not as black and white as it seems. The social comparison paradox and the cultural explanation would only account for part of the variation in and explanation of happiness gaps. Psoriasis has a major impact on subjective well-being – whether you live in the Nordic countries or in Latin America.

From regression analysis[98], it is evident that stress and loneliness are better predictors of unhappiness than low socioeconomic status in Western Europe and the Nordics, but not in Latin America and Northern America. So, we cannot exclude any of the factors in any countries when addressing the solutions to these worryingly high happiness gaps for patients with self-perceived severe psoriasis.

This notion is further supported and explored in the following section, as we investigate how we can bridge the happiness gap in the best way possible.

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[98] See Table D in appendix

Bridging the happiness gap by lifting people out of misery

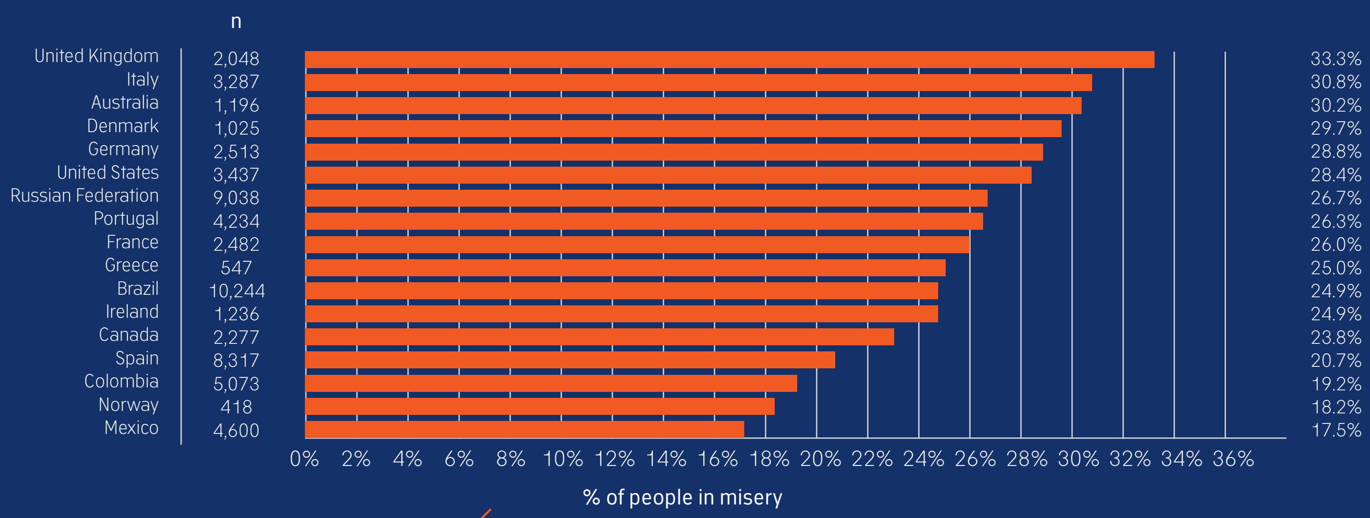
Understanding that happiness levels and happiness gaps vary substantially between countries provides crucial insights into the magnitude and extent of the impact on well-being of living with psoriasis. But it doesn't tell us how many people are in urgent need of help or - more importantly – how we can help them effectively.

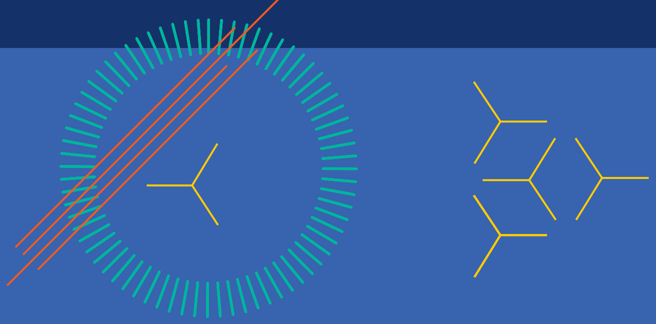
The authors of this report believe that policy-design and decision-making should be:

- *holistic* in the sense that we should always consider broader concepts of progress and equality, beyond what key economic numbers can provide
- *evidence-based* in the sense that our recommendations should be backed by valid and reliable insights based on the academic cross-fields of psychology, economics and philosophy.

Our work is based on the core principle that policy-makers should focus their efforts where well-being is most scarce in order to bridge the gaps in quality of life. It's therefore our priority to find ways in which we can lift-up the people who are most unhappy and most affected by psoriasis.

Figure 2.4: Percentage of people in misery per country





Bridging the happiness gap by lifting people out of misery (continued)

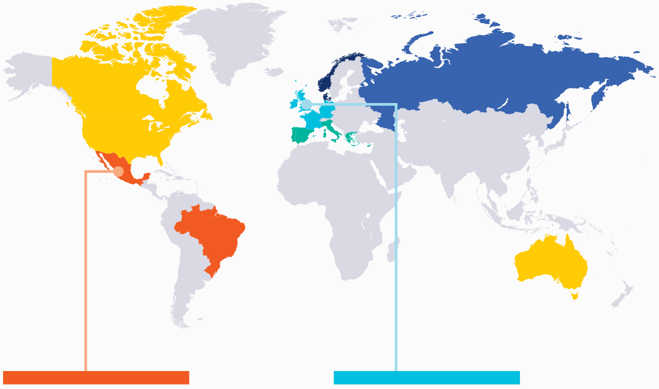
1 in 4

1 in 4 of all people living with psoriasis are *in misery*.

In order to identify the most affected people – whom we label as people *in misery* – we pinpoint those who have assigned themselves low scores on our main well-being measure – Cantril's Ladder. (To recap, Cantril's Ladder is an 11-point scale where scores range from 0 - 10.) Our findings are consistent with those of the *World Happiness Report,* as in we identify people *in misery* as everyone who scores themselves between 0 - 4.

Across all countries, we find that **1 in 4 all people living with psoriasis are in misery**. However, these distributions vary considerably between countries – ranging from 17% in misery in Mexico to 33% in the UK. Obviously, these percentages change when we take severity into consideration. But the overall trend and relative differences between countries remains more or less the same.

Ranges of people living with psoriaisis in misery (%):



17%

in misery in Mexico.

33%

in misery in the UK.

Significantly, **these numbers far exceed the numbers in the general population**. From similar studies on general populations, the total number of people in misery in the UK was 8% and in the US only 5.6%[99].

To determine how we can lift the most people out of misery, we look at the impact of each of our main determinants: socioeconomic status, stress, loneliness and disease severity.

Then, we assess how a reduction in the prevalence or elimination of each determinant could lift people out of misery. In other words, we want to know how many people we can lift out of misery by reducing stress and loneliness, and by alleviating severe psoriasis and low socioeconomic status.

First, we need to define what we mean by 'reductions'. For us, 'reduction' refers to a threshold or cut-off in the scores of stress, loneliness, socioeconomic status and severity. It's crucial that these reduction-definitions are based on thresholds that are both meaningful and achievable.

Therefore, we do not present hypothetical numbers and scenarios that can only be achieved in theory – say, for instance, attempting to eliminate stress completely. We use conservative definitions: in our case, 'stress-reduction' refers to the elimination of stress levels higher than the high-stress mark (20 on Cohen's Perceived Stress Scale).

This stress level is markedly higher than the benchmark for the general population in the US (15.21 on the same scale).

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[99] Helliwell, J., Layard, R., & Sachs, J. (2017). World Happiness Report 2017, New York: Sustainable Development Solutions Network.

To assess how many people can be lifted out of misery by reducing or eliminating different factors, we have used a linear prediction model where all variables have been converted into distinct variables, such as stressed/not stressed and severely lonely/not lonely. This enables us to establish how many people can be lifted out of misery if certain factors are reduced. However, the threshold that determines when someone is stressed or lonely needs to be established. To do this, we seek to establish as conservative measures as possible for each factor. This is to prevent exaggerations and ensure the results are policy-relevant by reflecting reality and setting achievable objectives.

Four factors were taken into account: extreme stress, loneliness, low socioeconomic status and severe psoriasis. The detailed linear prediction model is explained in the Appendix (Table E).

Finally, for a thorough assessment of 'what works', we analyse and compare the effects of the above factors in the four regions with the highest sample rates: Latin America, Southern Europe, Western Europe and Northern America (+Australia).

Up to 35.6 % can be lifted out of misery by eliminating extreme stress

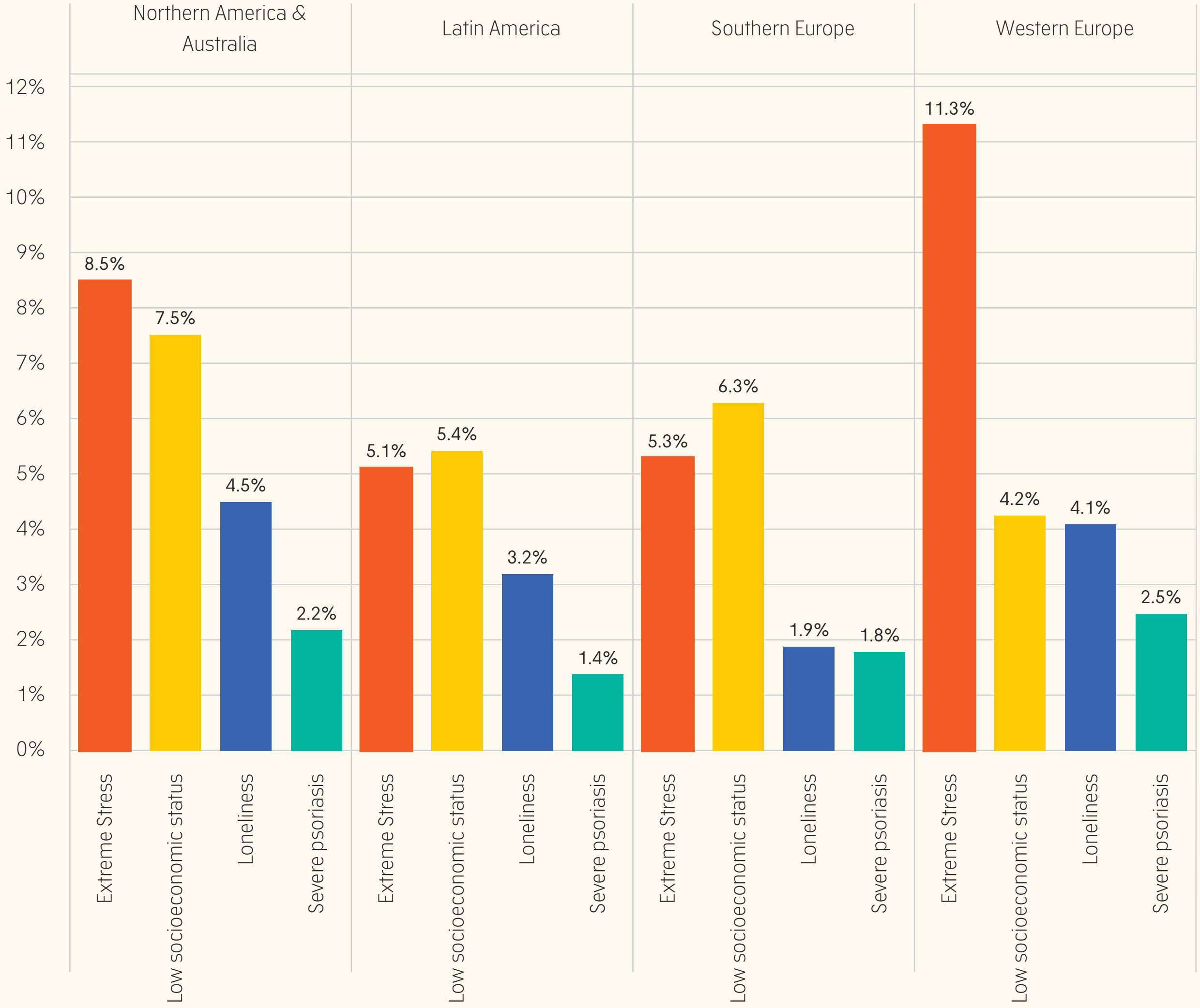
The results of this analysis make a particularly compelling case for reducing stress levels across all regions.

An individual who experiences stress while living with psoriasis is up to 23% more likely to be in misery.[100] Further, if the people living with extreme stress were to experience a stress reduction, up to 11% of the whole psoriasis population would be lifted out of misery.

35.6%

Up to 35.6 % can be lifted out of misery by eliminating extreme stress (11.3% of the total 31.7% in misery in Western Europe)

Figure 2.5 Percentage of the total psoriasis population who can be lifted out of misery by eliminating extreme stress, loneliness, severe psoriasis and low socioeconomic status[101].



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100 See Table E in appendix

101 Sample sizes: North America + Australia: n = 680; Latin America: n = 1,024; Southern Europe: n = 1,143; Western Europe n = 808

Up to 35.6% can be lifted out of misery by eliminating extreme stress (continued)

On one hand – and in line with the *social comparison paradox* - we find that stress is strongly linked to misery in Western Europe, while socioeconomic status is the best predictor in Latin America. On the other hand, stress alone is still a strong predictor across all regions and a reduction in stress can lift a lot of people out of misery regardless of where they live.

In Western Europe, 11.3% could be lifted out of misery by eliminating extreme stress, while 'only' 6.3% can be lifted out of misery in Southern Europe. Even though 6.3% is significantly lower than 11.3%, eliminating extreme stress will still lift 1 in 4 out of misery as the total percentage of people in misery in Southern Europe is 25.3%. Also, to lift 11.3% of the total population out of misery in Western Europe is, in fact, a lot of people considering that 35.1% are in misery in this region. In fact, this reduces the number of people in misery by 35.6%.

Eliminating extreme stress will lift more people out of misery in both Northern America (+ Australia) and Western Europe by reducing other factors. In fact, eliminating loneliness, low socioeconomic status and severe psoriasis would, taken together, only lift as many people out of misery as the elimination of extreme stress alone, in Western Europe.

25.4%

Northern America and Australia

25.4% can be lifted out of misery by eliminating extreme stress
(8.5% of the total 33.5% in misery)

29.7%

Latin America

29.7% can be lifted out of misery by eliminating extreme stress
(5.1% of the total 17.2% in misery)

24.9%

Southern Europe

24.9% can be lifted out of misery by eliminating extreme stress
(6.3% of the total 25.3% in misery)

The impact of loneliness

The impact of loneliness is also not be neglected. Up to 7.5% of the total psoriasis population could be lifted out of misery by eliminating the extreme cases of loneliness. That is equivalent of reducing the people living in misery by 12.9%. For comparison, in Western Europe, reducing loneliness has the same potential as eradicating low socioeconomic status.

Finally, this analysis proves that socioeconomic inequality is a significant cause of misery. In Southern Europe, for example, people are 37% more likely to be in misery if they perceive their socioeconomic status as low. This emphasises the need to improve socioeconomic status if the happiness gaps are to be bridged.

Concluding remarks

Rethinking inequality

Unfortunately, people living with psoriasis are subject to great inequalities in well-being.

Paradoxically, this is most true in countries characterised by comprehensive free healthcare and generally high levels of happiness, like Norway and Denmark.

Several hypotheses as to why this is the case can be explored. However, the main take-away from this chapter is that a linear approach to well-being inequality, for instance, one which only emphasises divisions in socioeconomic status, is insufficient if we are to bridge the happiness gaps of people living with psoriasis.

Instead, a holistic approach emphasising both the social determinants of inequality as well as the psychological drivers is essential if we are to meaningfully affect change.

That said, a holistic approach has to be tailored to the specific country of concern, as we have found that well-being is impacted in various ways depending on culture and geography. In the following chapter, we'll inspect the differences on a country and regional level.

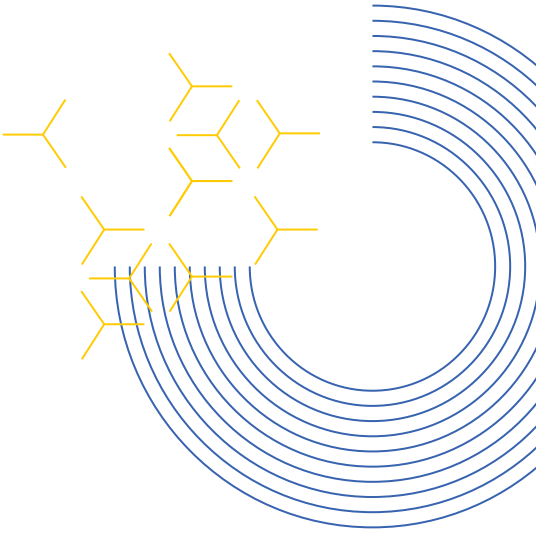
Chapter 03:

Country differences

Country differences

About and beyond stress

In this chapter, we present the key findings of well-being factors for each region as defined in this report. In all regions, stress is reducing the well-being of people living with psoriasis. Other factors impacting on well-being vary by region.

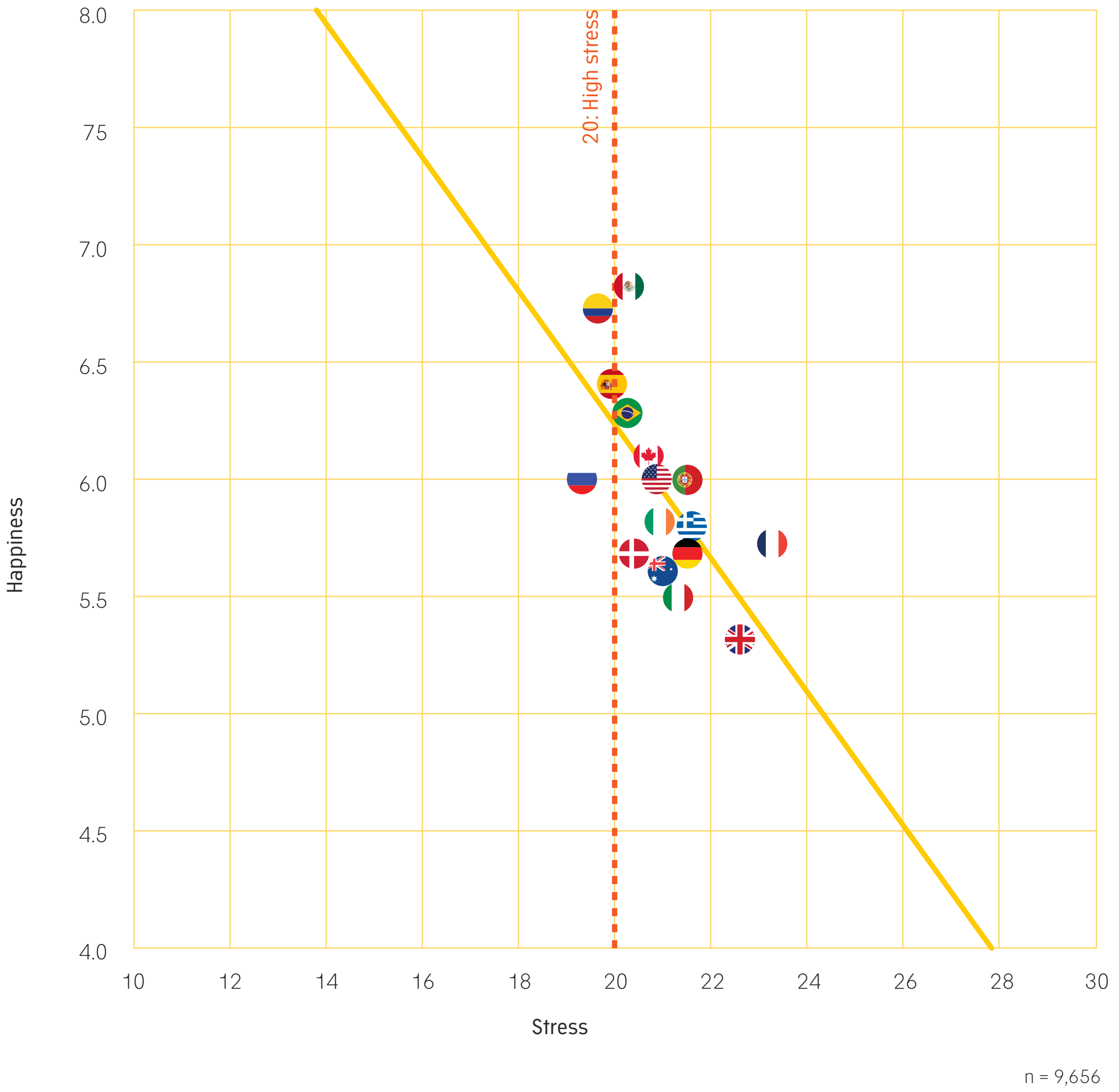


In previous chapters, we explored the happiness gaps of those living with psoriasis. We've learned that misery is prevalent in all countries and that stress and loneliness are common denominators of unhappiness. Some populations are suffering even more than others.

While this is partly due to the cultural differences and the impact of social comparison presented in Chapter 2, it is mainly due to inequalities in stress, loneliness and socioeconomic status. These three factors are strong predictors of unhappiness in all countries.

The role of stress has been a common theme throughout the report, for good reason. It is the best psychological predictor of unhappiness and perhaps the key to lifting people out of misery.

When comparing the stress levels between countries – as in figure 3.1 – it becomes clearly evident that stress matters. Except for a few countries, all populations surveyed are above the 20 point mark, indicating 'high stress levels'. And, unsurprisingly, the populations that report higher average levels of stress also report lower average levels of happiness.

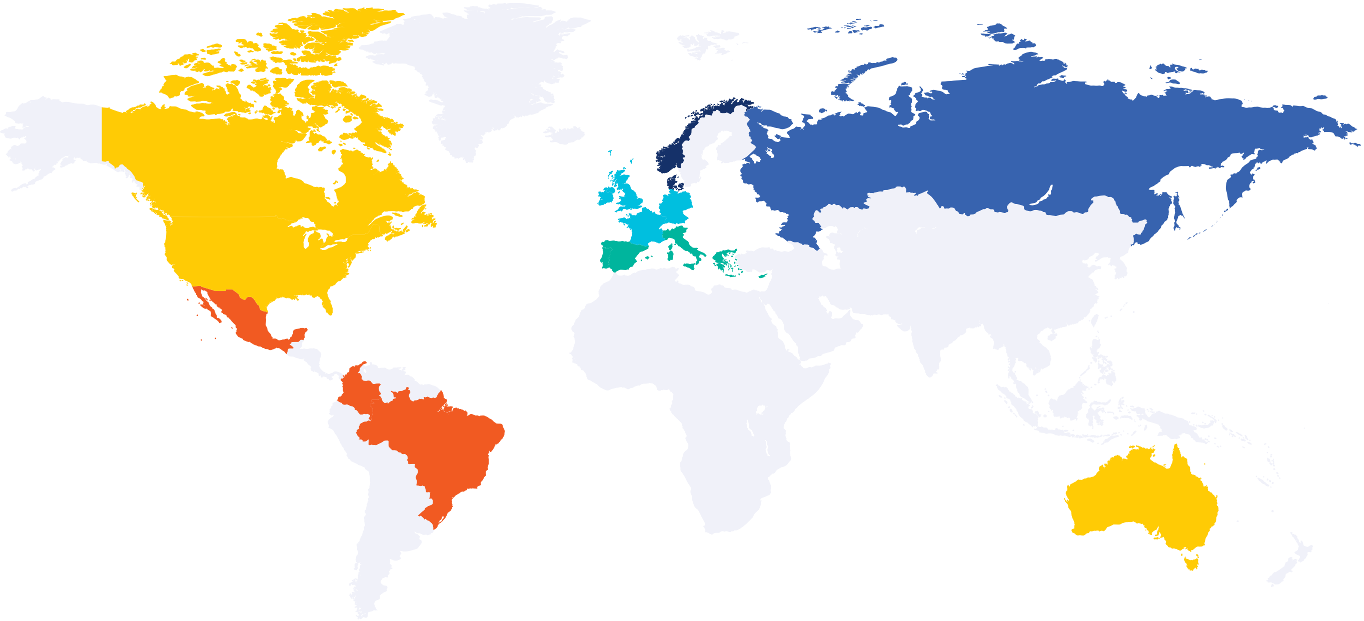


Country Correlation: Average happiness levels and average stress score

Country analysis: about and beyond stress

Much of the variations in the happiness gaps between countries can be explained by differences in stress levels. But not all of them - stress is far from the only factor impacting happiness.

In the following sections, we present the key findings about well-being for each region and country. This data continues to show the importance of stress, but also explores factors like social support, self-esteem, lifestyle habits and treatment types. Finally, the following sections seek to explore the gender differences for each factor so we can identify where in the world the gender gaps are most significant.



Latin America

Latin America

Selected countries: Brazil, Colombia and Mexico

Are Latin Americans the best at bridging the happiness gaps?

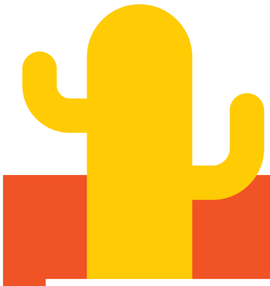
Latin America is an emerging region in terms of national happiness. The average levels of happiness in Brazil, Colombia and Mexico have increased within the last years[102]. And, if we measure daily life emotions instead of evaluative happiness, Latin America can be considered the happiest region in the world[103].

The people living with psoriasis in these countries are also doing relatively well. Their happiness scores range between 6.2 - 6.7 for mild psoriasis, 5.9 - 6.6 for moderate psoriasis and 5.0 - 5.6 for severe psoriasis.

This makes Latin America one of the top performers in this study. Colombia, in particular, is worth some consideration as their level of happiness for people with severe psoriasis exceeds the level of any other country. Despite this rather uplifting data, the lives of people with severe psoriasis are still far from average. They still experience significant happiness gaps, varying from 8% in Colombia to 25% in Brazil. This again emphasises that self-perceived severity drives unhappiness.

In Latin America, cost is the main reason why people cease their treatments. This shows the need to improve socioeconomic factors and access to healthcare in the region, as highlighted in Chapter 2.

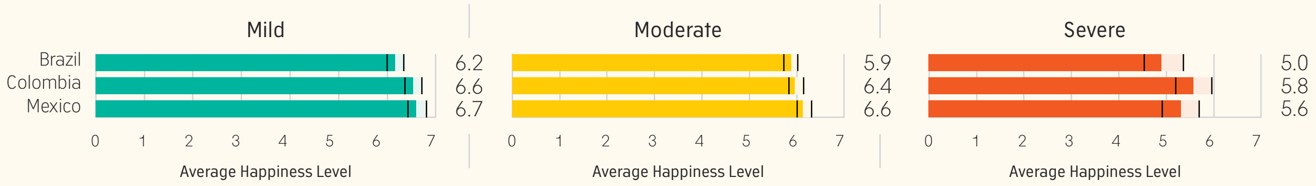
However, while increasing socioeconomic status will improve the conditions for many Latin Americans, eliminating extreme stress and loneliness can ultimately alleviate the misery of more people[104].



Nana, 20, Brazil

'My psoriasis developed when I turned 18. I have been trying to accept the disease for two years but sometimes the pain is too much. I get very sad looking back and remember when I did not suffer every day. Just these days it is more controlled, but I'm always afraid it will spread through the body. It requires a lot of strength.'

Average happiness levels per severity



Brazil n = 3,399 Colombia n = 2,446 Mexico n = 2,247

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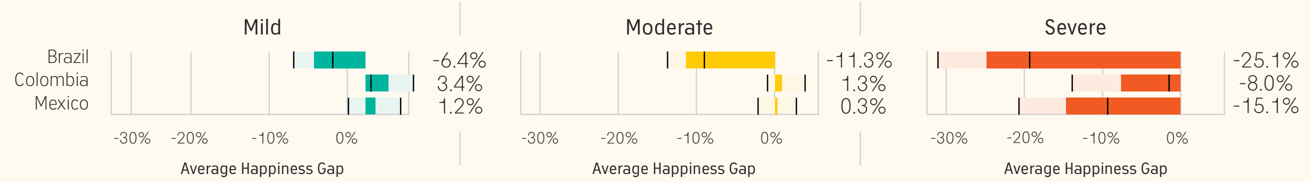
[102] Helliwell, J., Layard, R., & Sachs, J. (2017). *World Happiness Report 2017*, New York: Sustainable Development Solutions Network.

[103] Gallup (2017) Global Emotion Report

[104] As shown in Chapter 2.

Average happiness gap per severity

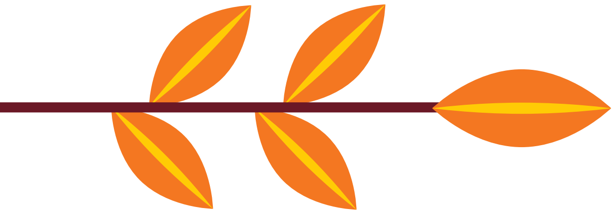
Brazil n = 3,399 Colombia n = 2,446 Mexico n = 2,247



A major Latin American gender gap in stress

In Colombia, 56% of people living with severe psoriasis are stressed[105/106]. In Mexico this number is 68% and in Brazil, 75%. Given that stress is one of the best predictors of unhappiness, the relatively lower levels of stress in Colombia may explain the smaller happiness gap.

The most interesting insight into stress in Latin America is the great gender division. Women are consistently more often highly stressed than men, according to our data. For instance, in Brazil, more than twice as many women as men report being highly stressed.



56%

56% of people living in Colombia with severe psoriasis are stressed.

68%

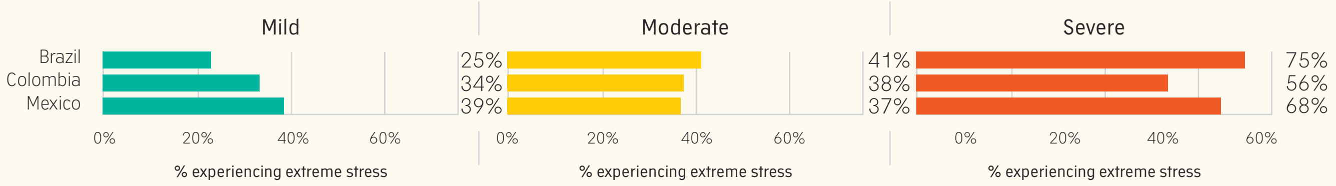
68% of people living in Mexico with severe psoriasis are stressed.

75%

75% of people living in Brazil with severe psoriasis are stressed.

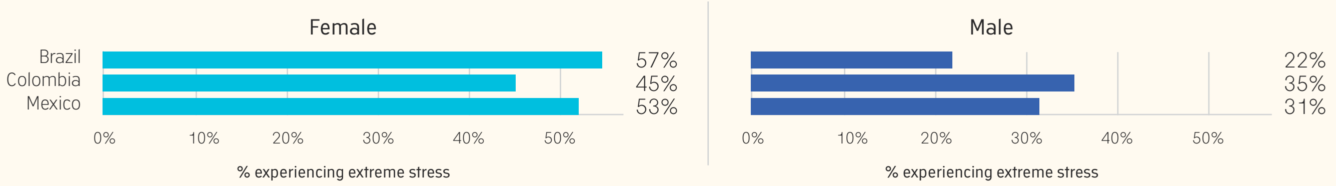
Percentage of people experiencing extreme stress

Brazil n = 379 Colombia n = 370 Mexico n = 391



Percentage of people experiencing extreme stress

Brazil n = 901 Colombia n = 749 Mexico n = 802



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105 In Latin America, the threshold of living with 'extreme' stress is above '21' – according to the calculation used in Chapter 2.

106 We do not provide any global scores for stress, as all scores indicating 'high/extreme stress' are estimated based on regional levels.

Stress related statements	Gender	Brazil	Colombia	Mexico	Global
In the last month, how often have you felt nervous and stressed? 'Very often' and 'Fairly often'	Female	54%	55%	58%	62%
	Male	28%	35%	38%	42%
		n = 973	n = 819	n = 852	n = 11,303
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 'Very often' and 'Fairly often'	Female	30%	32%	33%	37%
	Male	18%	24%	18%	24%
		n = 904	n = 779	n = 814	n = 10,833
In the last month, how often have you been angered because of things that were outside your control? 'Very often' and 'Fairly often'	Female	33%	41%	43%	45%
	Male	20%	31%	28%	32%
		n = 916	n = 787	n = 821	n = 10,877

Up to 49% with severe psoriasis live in loneliness

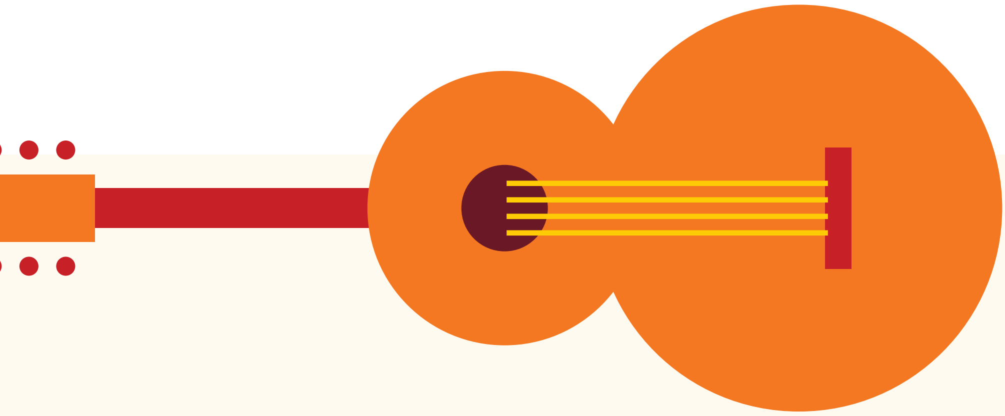
Loneliness is still widespread despite seemingly high happiness scores and relatively low happiness gaps. In Brazil and Colombia, almost half of the group of people living with severe psoriasis are considered lonely. This is more than the global average. In Mexico, this number is 38%. In terms of gender differences, women are lonely more often than men. For instance, while only 14% of men report that they often lack companionship in Brazil, more than twice as many women struggle with this (29%).

38%

38% of people living in Mexico with severe psoriasis are lonely.

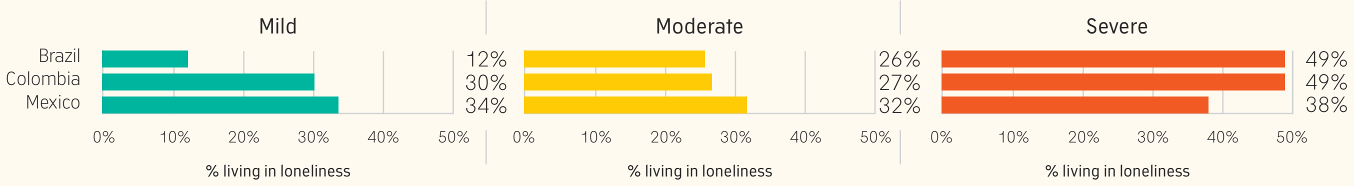
14%

14% of men living in Brazil lack companionship, while 29% of women struggle with this.



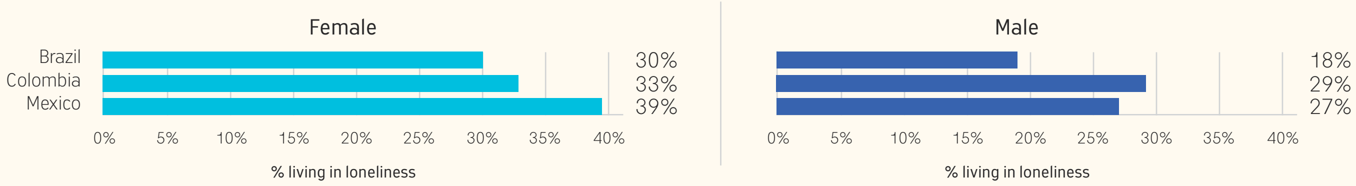
Percentage of people living in loneliness by severity

Brazil n = 398 Colombia n = 375 Mexico n = 405

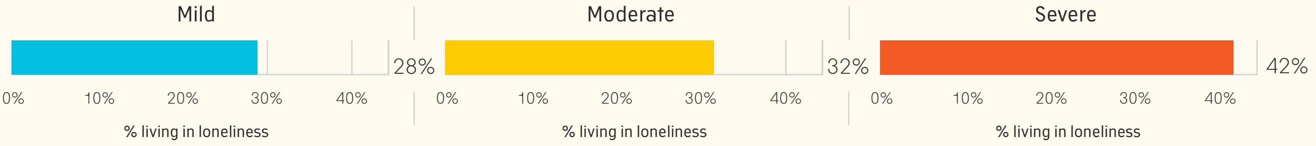


Percentage of people living in loneliness by gender

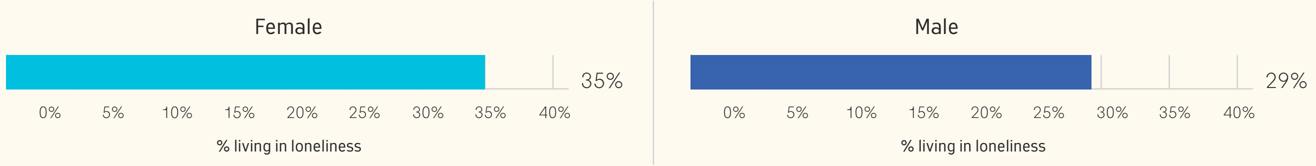
Brazil n = 400 Colombia n = 383 Mexico n = 414



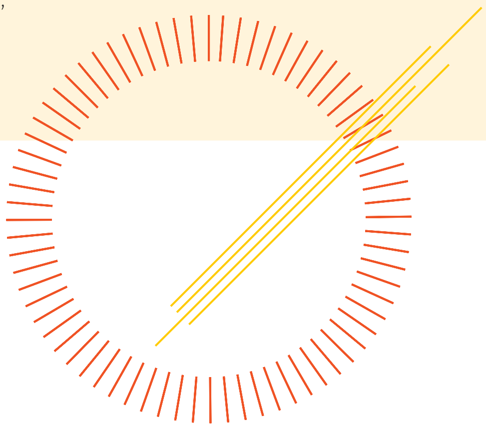
Global loneliness by severity
n = 5,171



Global loneliness by gender
n = 5,399



Loneliness related statements	Gender	Brazil	Colombia	Mexico	Global
How often do you feel that you lack companionship? 'Always'	Female	29%	28%	30%	28%
	Male	14%	24%	21%	24%
		n = 385	n = 384	n = 409	n = 5,366
How often do you feel left out? 'Always'	Female	18%	21%	29%	25%
	Male	13%	15%	18%	19%
		n = 381	n = 381	n = 405	n = 5,316
How often do you feel isolated from others? 'Always'	Female	19%	23%	29%	26%
	Male	13%	19%	20%	21%
		n = 382	n = 379	n = 405	n = 5,326



Many Latin Americans suffer from low self-esteem

A lack of confidence and insecurity is a common phenomenon. But when low self-esteem becomes a long-term issue, it may have major negative effects on well-being. While the majority of Latin Americans do not have significant confidence issues, there are still many people suffering.

For instance, a third of the Latin American psoriasis population are inclined to feel like failures, and almost 50% feel they do not have much to be proud of. Interestingly, the gender differences do not seem to be widespread as far as confidence is concerned.

Confidence related statements	Gender	Brazil	Colombia	Mexico	Global
I certainly feel useless at times. 'Agree'/'Strongly agree'	Female	47%	38%	35%	51%
	Male	39%	30%	32%	42%
		n = 1,178	n = 458	n = 460	n = 7,999
I feel I do not have much to be proud of. 'Agree'/'Strongly agree'	Female	48%	47%	47%	42%
	Male	50%	51%	53%	45%
		n = 1,182	n = 464	n = 464	n = 8,083
All in all, I am inclined to feel that I am a failure. 'Agree'/'Strongly agree'	Female	39%	32%	29%	34%
	Male	37%	25%	31%	33%
		n = 1,100	n = 444	n =452	n = 7,761

Collectivistic societies lack adequate understanding

Latin American culture is often characterised by its strong familial bonds and a collectivistic culture. These bonds, however, don't seem to promote a lot of understanding. Only half of the people living with psoriasis agree that their closest family understands what it is like deal with psoriasis. In Mexico, 48% of women agree that their family understands what it is like to deal with psoriasis. Even fewer people report to have understanding friends.

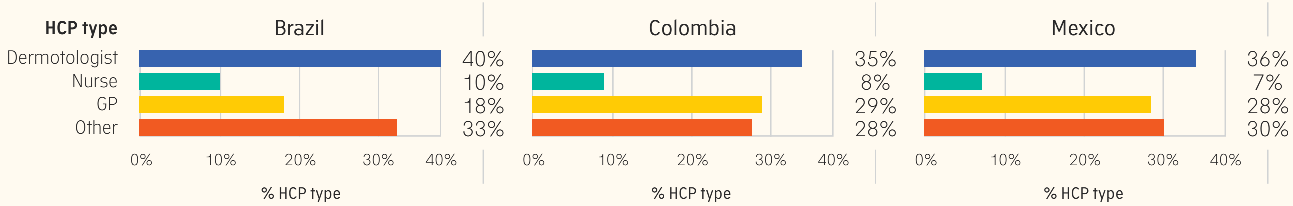
Social support related statements	Gender	Brazil	Colombia	Mexico	Global
My closest friends understand what it is like for me to deal with psoriasis 'Agree' / 'Strongly agree'	Female	45%	38%	38%	42%
	Male	44%	41%	34%	43%
		n = 711	n = 495	n = 510	n = 6,433
My closest family understand what it is like for me to deal with psoriasis 'Agree' / 'Strongly agree'	Female	50%	41%	48%	50%
	Male	54%	51%	58%	54%
		n = 750	n = 519	n = 525	n = 6,619
I know somebody who also has psoriasis and we share thoughts and experiences 'Agree' / 'Strongly agree'	Female	37%	38%	45%	39%
	Male	41%	47%	47%	43%
		n = 675	n = 479	n = 492	n = 6,299

Aléxia, 19, Brazil

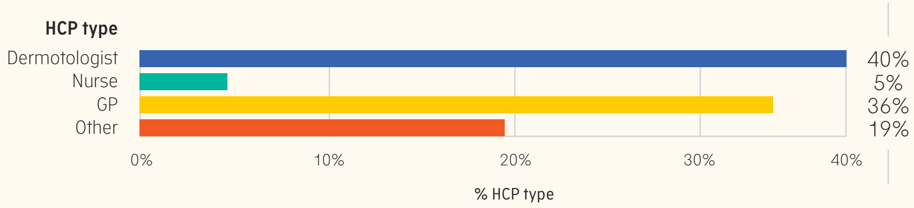
'I experience prejudice from my own family. They would not let me pick up my cousin who at the time was newborn, as they said that I would infect the boy. A family member called me 'dalmatian'. At school, I don't suffer, but that's because I'm wearing a high school sweater even on the hottest days.'

Latin Americans do not feel informed about treatment options

‘Who is your primary healthcare professional in relation to your psoriasis?’
Brazil n = 466 Colombia n = 480 Mexico n = 494



‘Who is your primary healthcare professional in relation to your psoriasis?’
Global n = 6,150

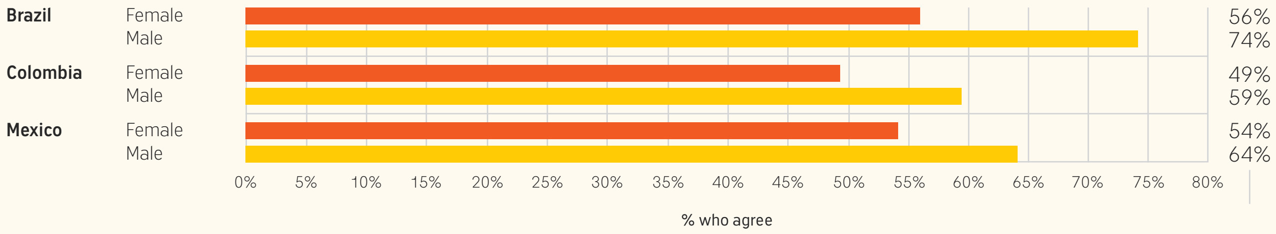


Across all countries and regions in this study, people emphasise the lack of understanding from their healthcare professionals. Latin America is no exception.

Almost half the women in these three countries call for more understanding from their healthcare professionals. Men, on the other hand, are more content with the information they receive. The lack of information about treatment options seems to be a major concern of Latin Americans. With the exception of Brazilian men, more than half of the population report having inadequate information about treatments for their psoriasis.

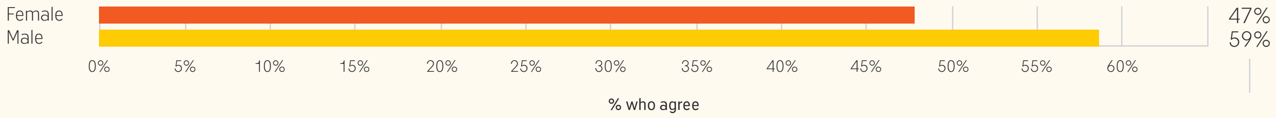
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’

Brazil n = 416 Colombia n = 421 Mexico n = 437



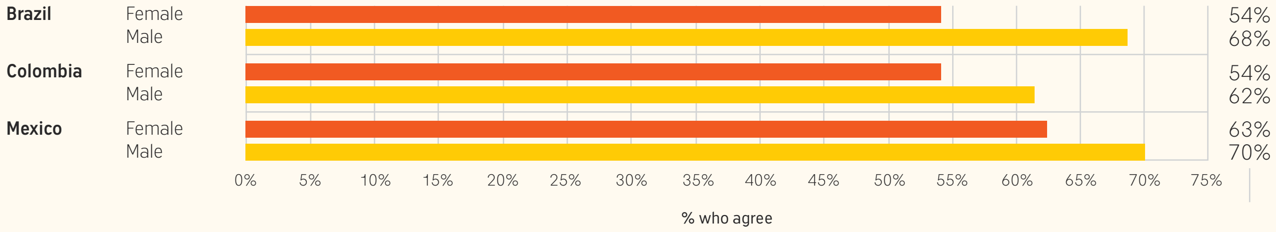
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’

Global n = 5,716



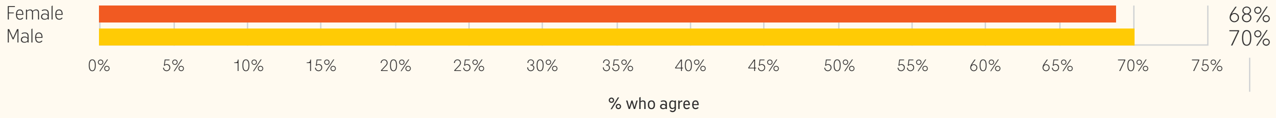
‘I can get in touch with the healthcare professional when I’m in need’

Brazil n = 401 Colombia n = 407 Mexico n = 421



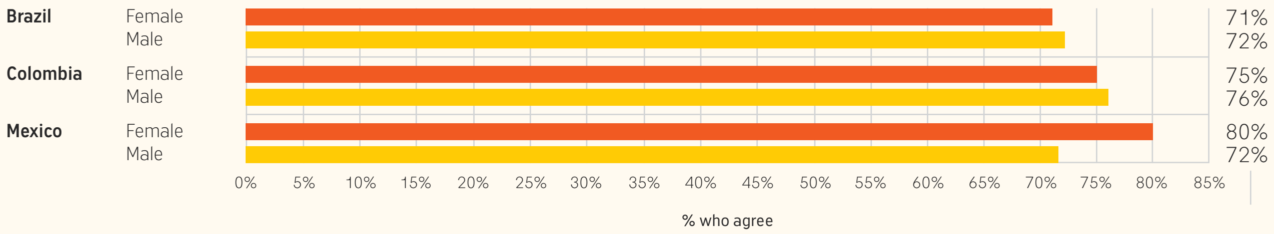
‘I can get in touch with the healthcare professional when I’m in need’

Global n = 5,578



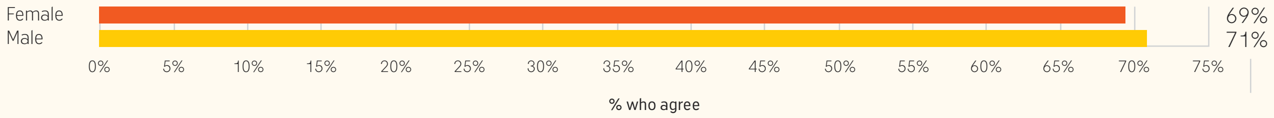
‘I always follow the advice of my healthcare professionals’

Brazil n = 421 Colombia n = 416 Mexico n = 432



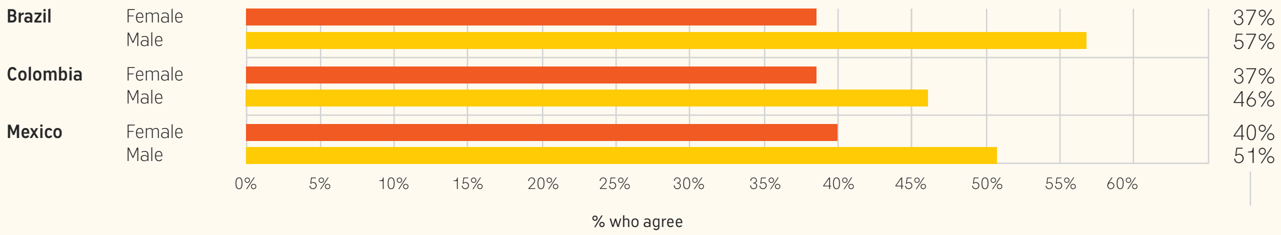
‘I always follow the advice of my healthcare professionals’

Global n = 5,705



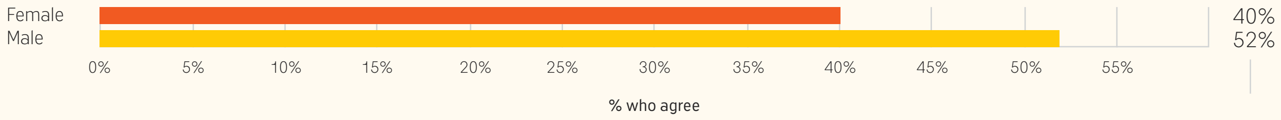
‘I’ve been informed about all the different treatment options related to my condition’

Brazil n = 391 Colombia n = 394 Mexico n = 414



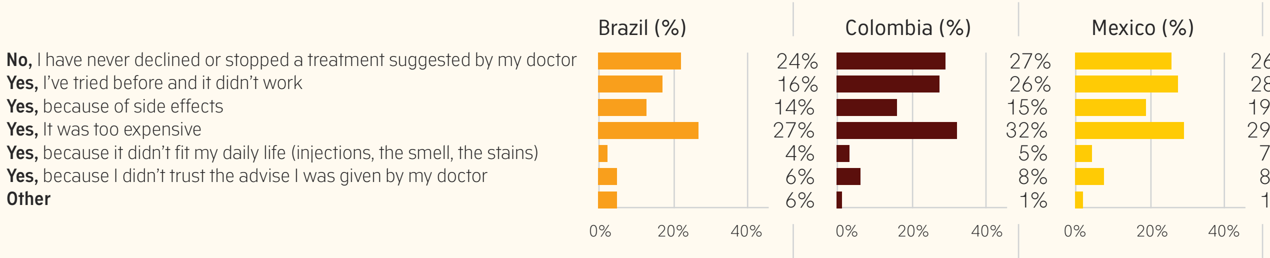
‘I’ve been informed about all the different treatment options related to my condition’

Global n = 5,485



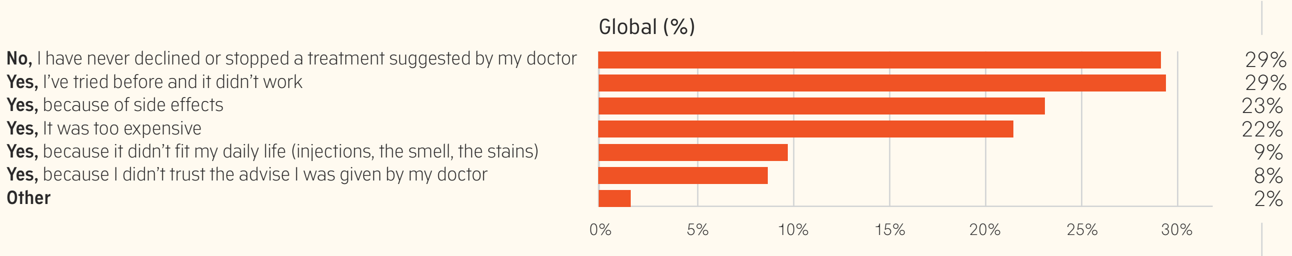
'Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?'

Brazil n = 386 Colombia n = 373 Mexico n = 410



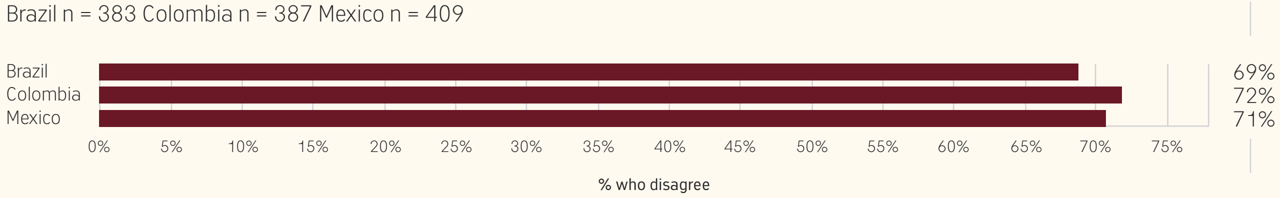
'Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?'

Global n = 5,500



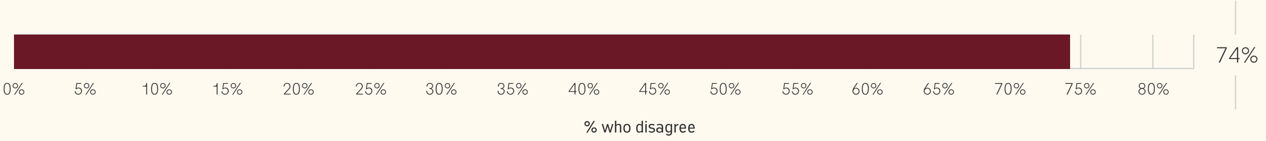
'There is sufficient public awareness regarding my disease'

Brazil n = 383 Colombia n = 387 Mexico n = 409



'There is sufficient public awareness regarding my disease'

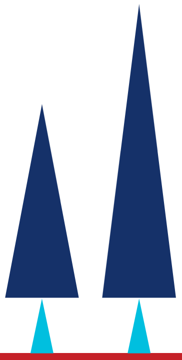
Global n = 5,457



Western Europe

Western Europe

Selected countries: France, Germany, United Kingdom and Ireland



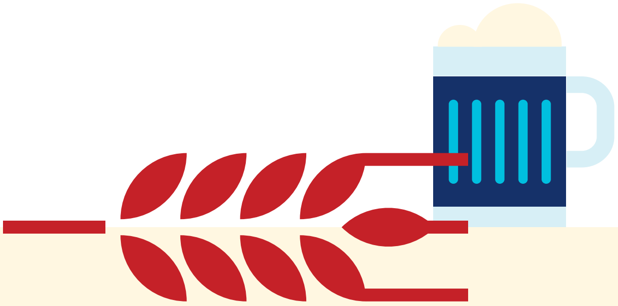
Major happiness inequalities in Western Europe

France, Germany, Ireland and the UK are all highly developed countries performing well in many factors. However, the happiness levels of their general populations is notably lower than the best-performing countries, such as Denmark, Norway and Canada.

While the comparatively lower happiness levels of the general population is concerning in itself, those of people living with psoriasis are even more worrying. In France, Germany, Ireland and the UK, people with severe psoriasis are 26% - 37% less happy. Germans, in particular, have the second highest happiness gap for people with severe psoriasis (37%) out of all the populations in this study.

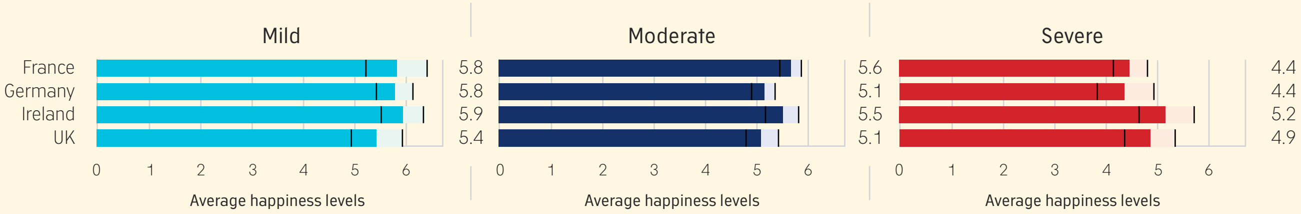
Pierre, 59, France

> ‘I am alone, and no longer know how to make the right decisions. Sometimes, I’m depressed and gradually slip into complete solitude… I am a disgusted of this life!’



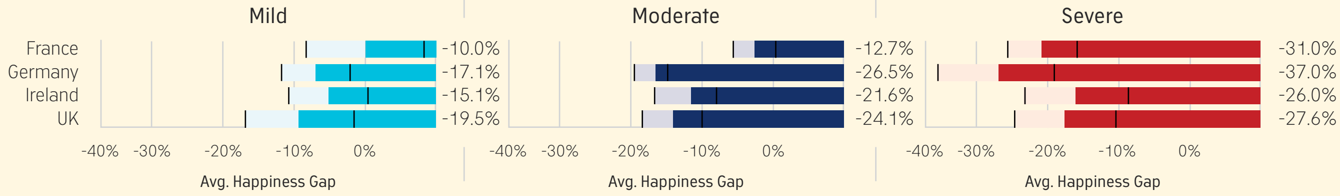
Average happiness levels per severity

France n = 544 Germany n = 512 Ireland n = 395 UK n = 472



Average happiness gap per severity

France n = 544 Germany n = 512 Ireland n = 395 UK n = 472



Germans are stressed more often

Stress is a prevalent factor in all four countries[107]. In the selected countries in Western Europe it is the strongest predictor of unhappiness and the most likely cause of misery[108] - even more so than low socioeconomic status.

For people with severe psoriasis, extreme stress affects between 47% (in Ireland) and 63% (in Germany). Interestingly, stress seems more prevalent in France and Germany than in the UK and Ireland.

Women tend to be more stressed than men. In France, 77% of women report often feeling nervous and stressed, whereas 'only' 39% of men feel the same. In contrast, uniquely, men in the UK are more often affected by extreme stress than women.

Hanna, 61, Germany

'Unfortunately you cannot change anything. The disease can only be alleviated but you can never get it away. It would be very nice if you only a few months completely appear free.'

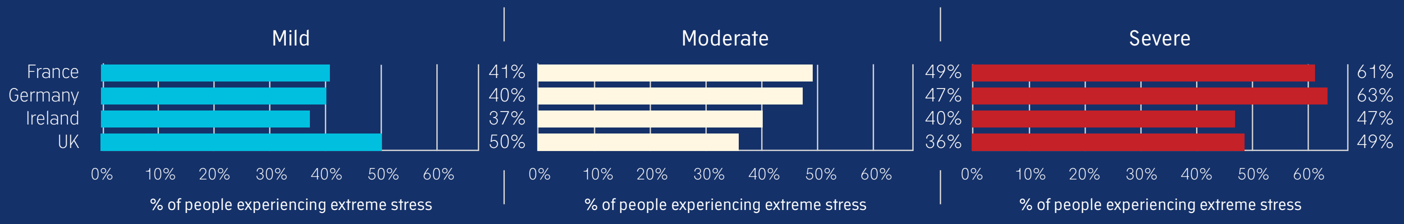
---

107 In Western Europe, the threshold of living with 'extreme' stress is above '24' – according to the calculation used in Chapter 2

108 Table D and E in Appendix

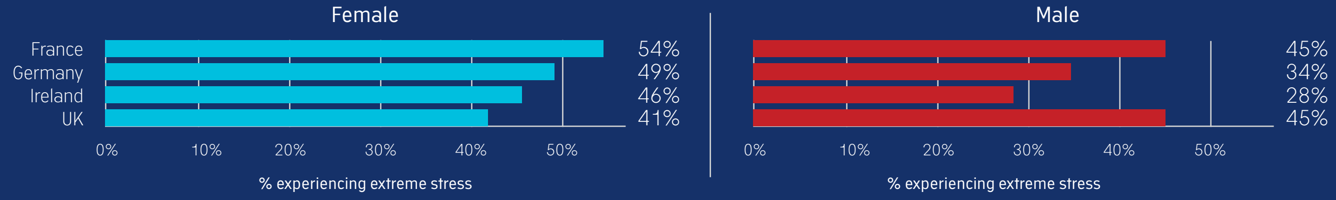
Percentage of people experiencing extreme stress

France n = 286 Germany n = 285 Ireland n = 169 UK n = 208



Percentage of people experiencing extreme stress

France n = 645 Germany n = 750 Ireland n = 442 UK n = 457



Stress related statements	Gender	France	Germany	UK	Ireland	Global
In the last month, how often have you felt nervous and stressed? 'Very often' and 'Fairly often'	Female	77% n = 462	68% n = 471	65% n = 286	59% n = 253	62% n = 6,655
	Male	39% n = 226	49% n = 273	53% n = 217	47% n = 190	42% n = 4,628
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 'Very often' and 'Fairly often'	Female	45% n = 458	41% n = 460	43% n = 283	42% n = 244	37% n = 6,411
	Male	27% n = 219	27% n = 262	31% n = 210	26% n = 183	24% n = 4,422
In the last month, how often have you been angered because of things that were outside your control? 'Very often' and 'Fairly often'	Female	62% n = 258	52% n = 458	54% n = 285	46% n = 242	45% n = 6,434
	Male	43% n = 221	33% n = 265	44% n = 213	40% n = 183	32% n = 4,443

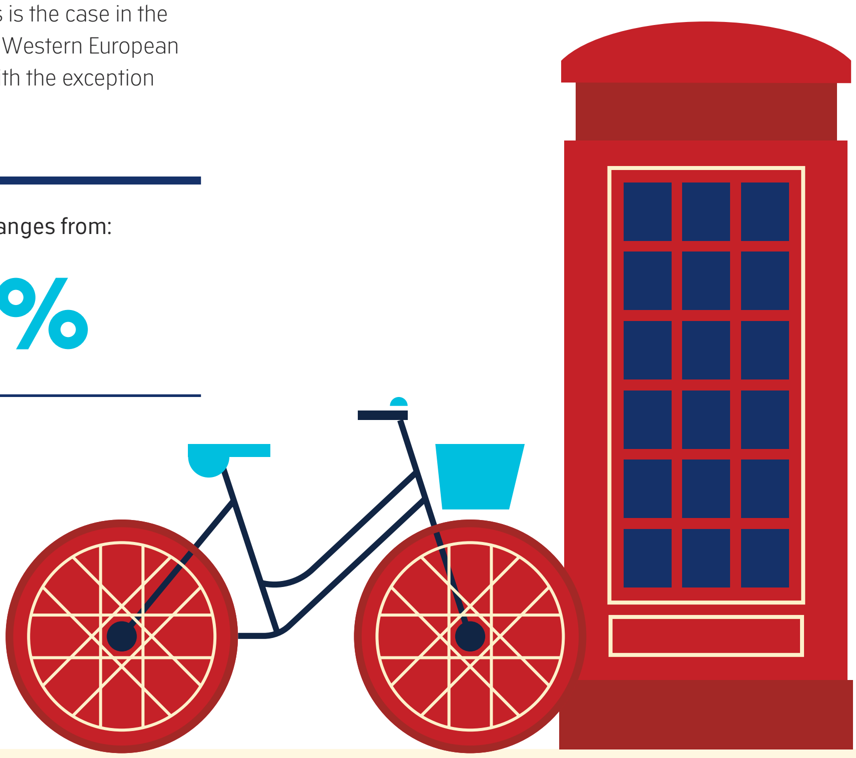
Brits are more lonely

While people living with psoriasis in Germany often reported to feeling extremely stressed, they reported living in loneliness less often than people in France, UK and Ireland. Conversely, Brits reported less extreme stress but more loneliness. About half of all Brits living with psoriasis are also living in loneliness. For Germans, this ranges from 20% - 32%.

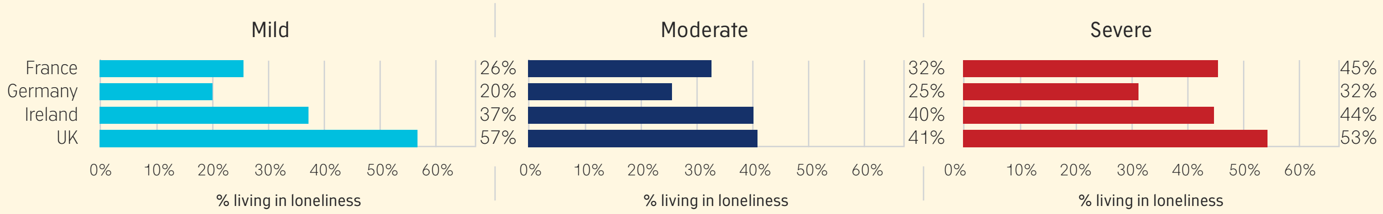
Additionally, men tend to be lonely more often than women. This is the case in the represented Western European countries, with the exception of Germany.

The number of Germans living with loneliness ranges from:

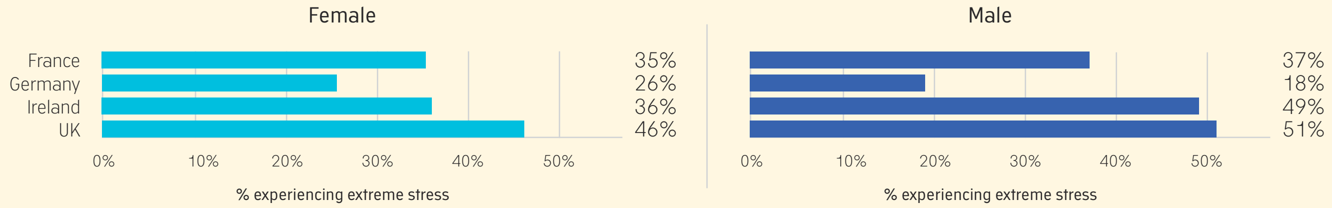
20% to 32%



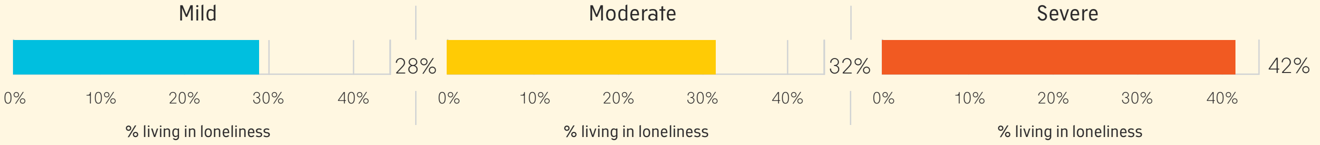
Percentage of people living in loneliness by severity
France n = 273 Germany n = 278 Ireland n = 169 UK n = 204



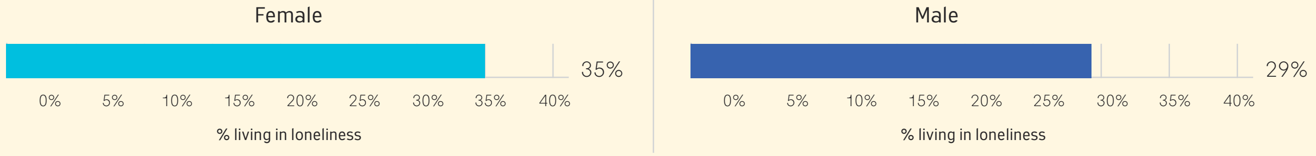
Percentage of people living in loneliness by gender
France n = 312 Germany n = 304 Ireland n = 179 UK n = 240



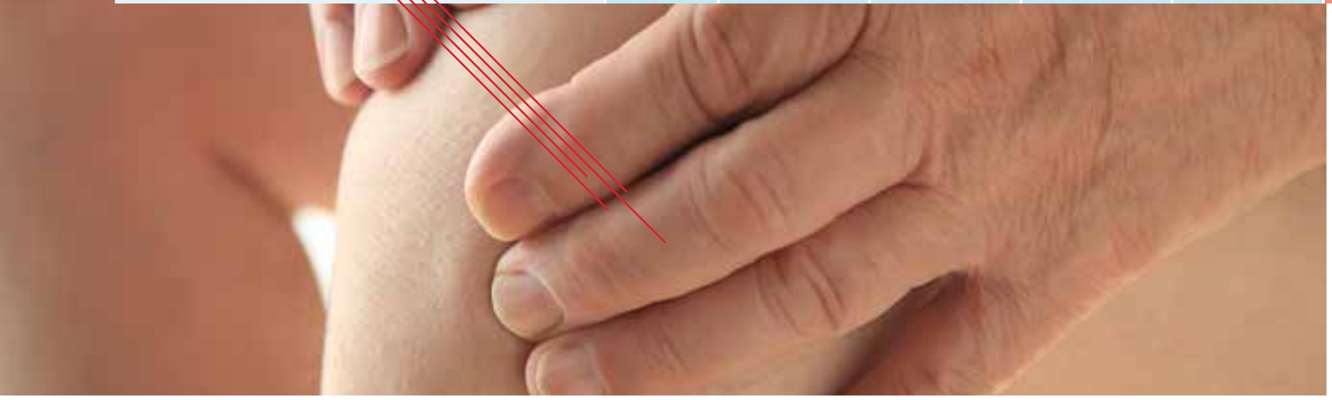
Global loneliness / severity
n = 5,171



Global loneliness / gender
n = 5,399



Loneliness related statements	Gender	France	Germany	UK	Ireland	Global
How often do you feel that you lack companionship? 'Always'	Female	29% n = 235	18% n = 251	30% n = 152	26% n = 125	28% n = 3,375
	Male	29% n = 85	21% n = 58	41% n = 91	33% n = 54	24% n = 1,991
How often do you feel left out? 'Always'	Female	24% n = 232	18% n = 250	33% n = 153	32% n = 124	25% n = 3,361
	Male	18% n = 82	18% n = 57	34% n = 89	31% n = 54	19% n = 1,955
How often do you feel isolated from others? 'Always'	Female	28% n = 235	14% n = 249	41% n = 150	28% n = 128	26% n = 3,371
	Male	18% n = 83	11% n = 57	39% n = 90	29% n = 55	21% n = 1,955



In France, 50% feel they have little to be proud of

Confidence seems to be an issue across the selected countries in the region defined as Western European. The majority of people living with psoriasis tend to feel useless at times, especially in Ireland (64%) and the UK (76%). In France, half of this population feel they do not have much to be proud of.

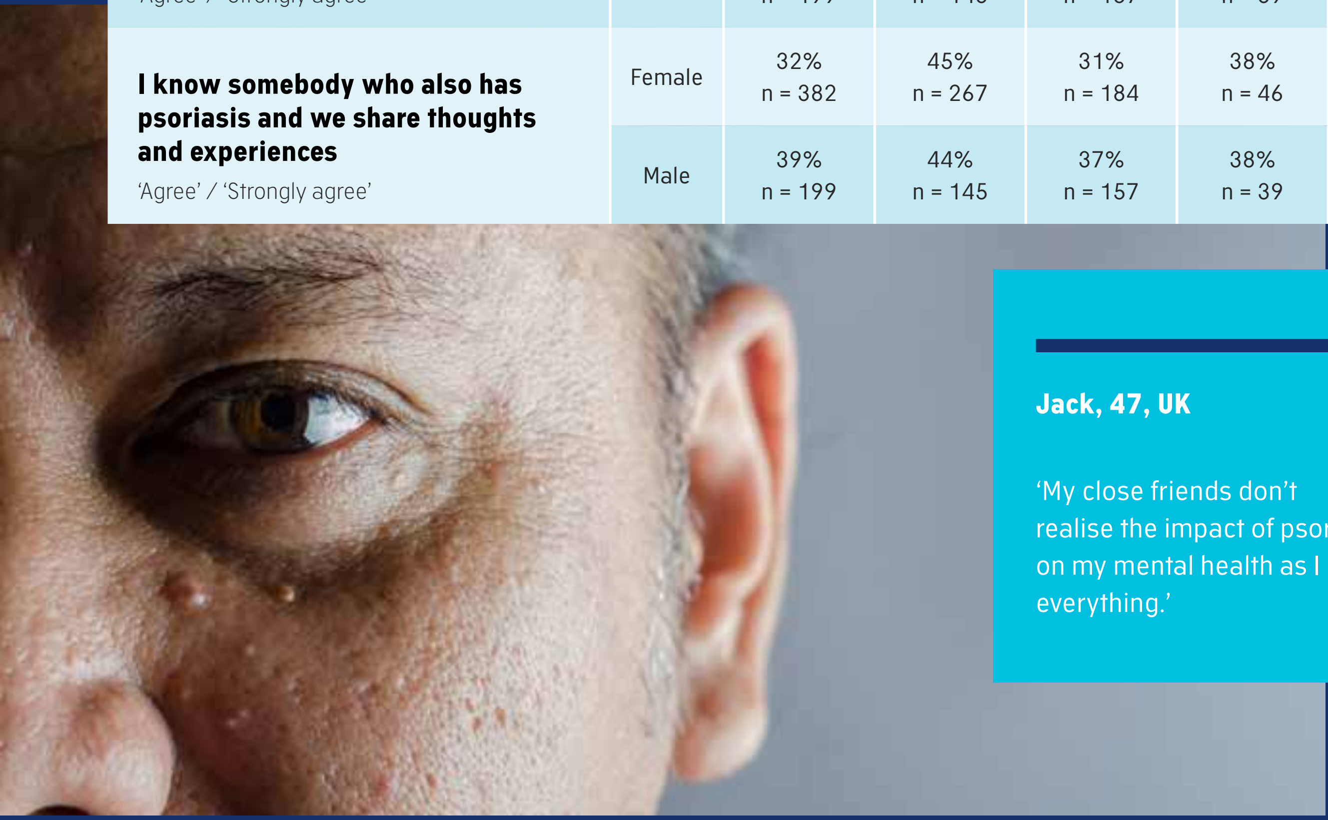
The gender differences suggest that women are often less confident than men. In France, 59% of all women feel useless at times, compared to 44% of men. On the other hand, in Ireland, men tend to feel more like a failure than women do.

Confidence related statements	Gender	France	Germany	UK	Ireland	Global
I certainly feel useless at times. 'Agree'/'Strongly agree'	Female	59% n = 478	50% n = 345	76% n = 201	64% n = 33	51% n = 4,432
	Male	44% n = 325	43% n = 245	61% n = 189	54% n = 48	42% n = 3,567
I feel I do not have much to be proud of. 'Agree'/'Strongly agree'	Female	49% n = 497	40% n = 349	43% n = 201	36% n = 33	42% n = 4,461
	Male	50% n = 334	35% n = 244	41% n = 191	40% n = 48	45% n = 3,622
All in all, I am inclined to feel that I am a failure. 'Agree'/'Strongly agree'	Female	27% n = 463	34% n = 345	45% n = 199	30% n = 33	34% n = 4,318
	Male	28% n = 315	33% n = 237	41% n = 189	36% n = 47	33% n = 3,443

Close friends don't understand what it is like to deal with psoriasis

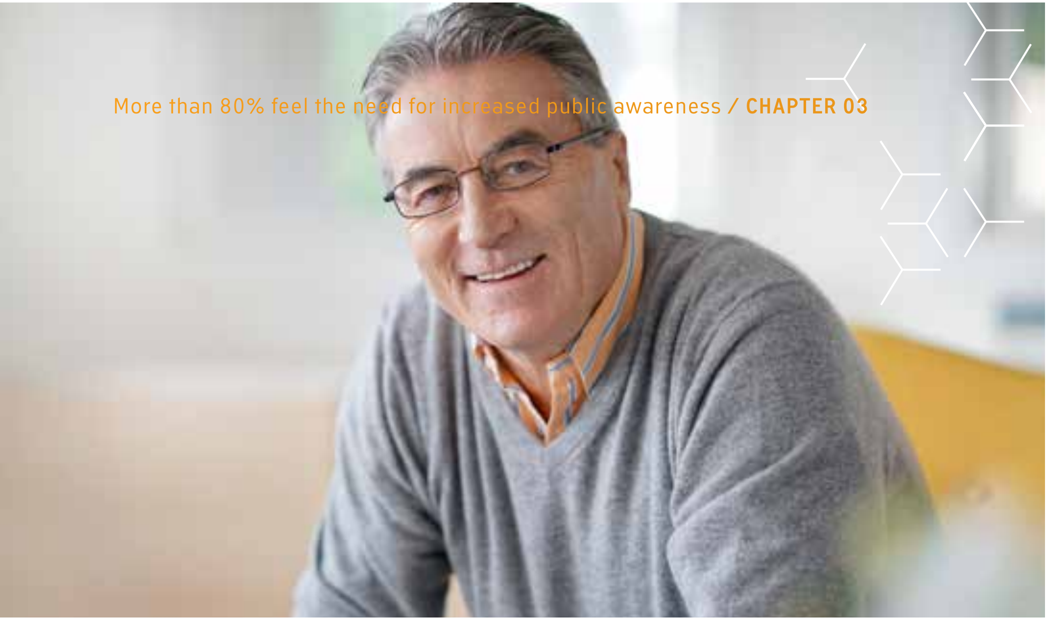
In France, the UK and Ireland, only a third of the population feel like their closest friends understand what it is like to live with psoriasis. In Germany, this number is slightly higher: 47% agree that their friends understand them. Germans are the least lonely population of the four, which is most likely attributed to their higher levels of social support – because social support directly affects loneliness.

Social support related statements	Gender	France	Germany	UK	Ireland	Global
My closest friends understand what it is like for me to deal with psoriasis 'Agree' / 'Strongly agree'	Female	36% n = 381	47% n = 269	33% n = 180	33% n = 48	42% n = 3,715
	Male	43% n = 198	46% n = 148	30% n = 155	36% n = 39	43% n = 2,718
My closest family understand what it is like for me to deal with psoriasis 'Agree' / 'Strongly agree'	Female	47% n = 383	59% n = 270	47% n = 186	59% n = 48	50% n = 3,820
	Male	58% n = 199	44% n = 148	57% n = 157	54% n = 39	54% n = 2,799
I know somebody who also has psoriasis and we share thoughts and experiences 'Agree' / 'Strongly agree'	Female	32% n = 382	45% n = 267	31% n = 184	38% n = 46	39% n = 3,651
	Male	39% n = 199	44% n = 145	37% n = 157	38% n = 39	43% n = 2,648



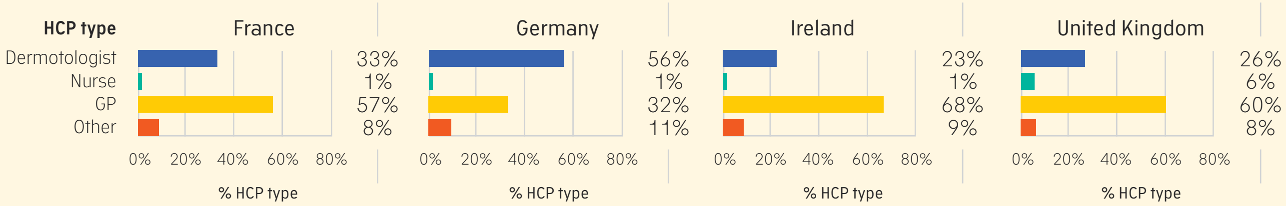
Jack, 47, UK

'My close friends don't realise the impact of psoriasis on my mental health as I hide everything.'

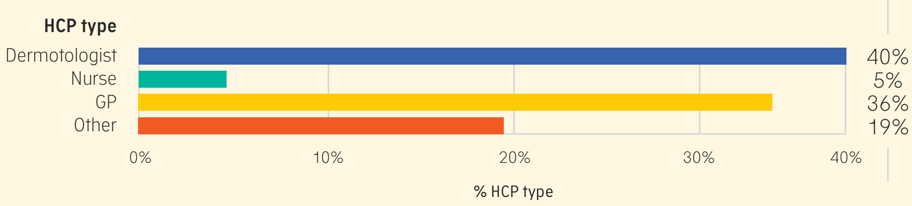


More than 80% feel the need for increased public awareness

‘Who is your primary healthcare professional in relation to your psoriasis?’
France n = 351 Germany n = 344 Ireland n = 192 UK n = 265



‘Who is your primary healthcare professional in relation to your psoriasis?’
Global n = 6,150



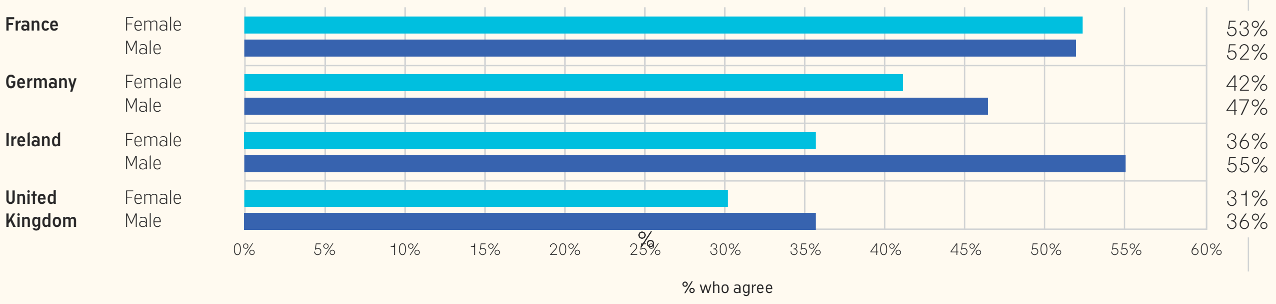
In France, only half of the population feel their healthcare professionals understand the impact psoriasis has on their well-being. Unfortunately, this is the most ‘positive’ case. In the UK, only roughly one in three respondents agree with this statement.

As far as differences by gender are concerned, men tend to be slightly more content than women in this region. Encouragingly, 90% of French respondents can get in touch with their healthcare professional when they’re in need. This is the highest number of all countries in this study. By contrast, the number is 61% for women and 66% for men in Britain.

Lastly, according to the respondents in this study, there is a desperate need for more awareness about psoriasis. More than 80% of all respondents in these four countries agree that there is not enough awareness about their disease.

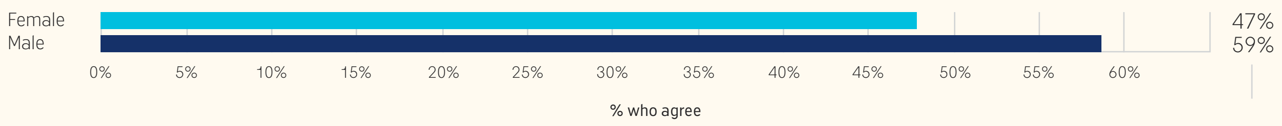
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’

France n = 333 Germany n = 332 Ireland n = 182 UK n = 261



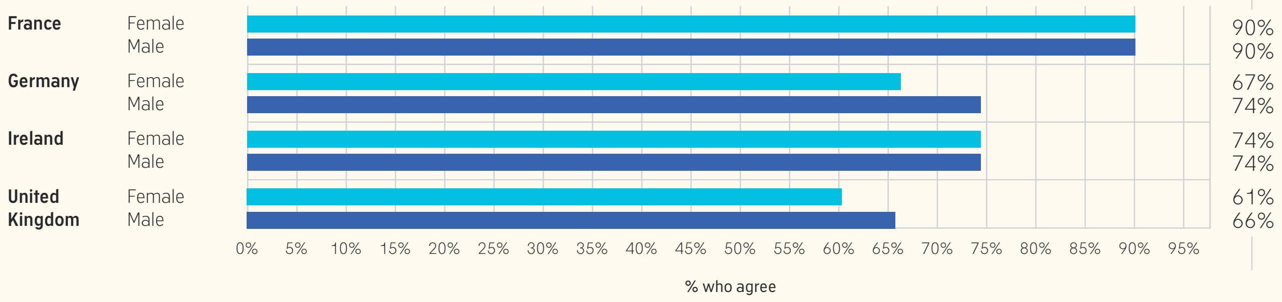
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’

Global n = 5,716



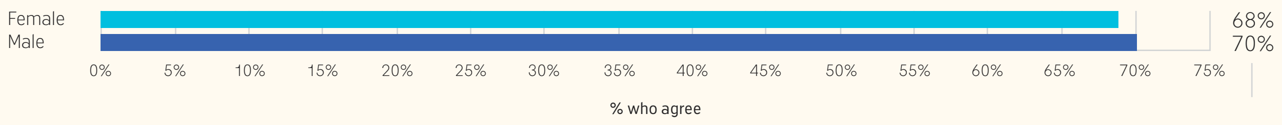
‘I can get in touch with the healthcare professional when I’m in need’

France n = 332 Germany n = 323 Ireland n = 182 UK n = 258



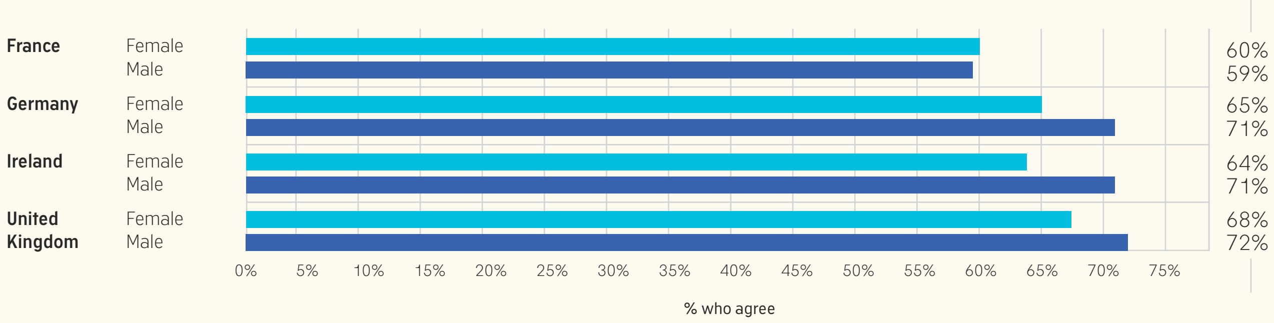
‘I can get in touch with the healthcare professional when I’m in need’

Global n = 5,578



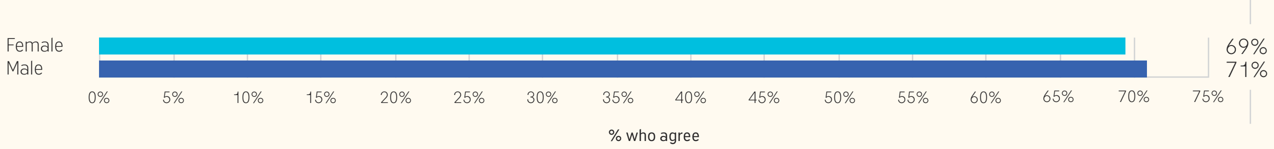
‘I always follow the advice of my healthcare professionals.’

France n = 335 Germany n = 331 Ireland n = 183 UK n = 260



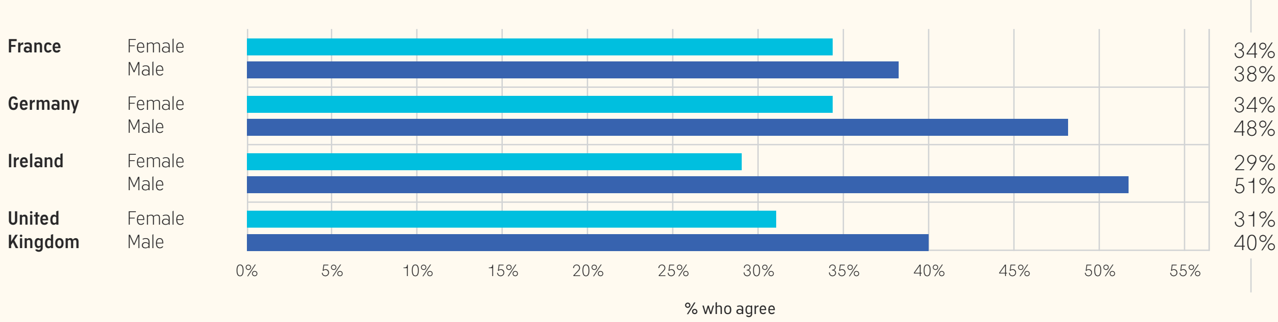
‘I always follow the advice of my healthcare professionals.’

Global n = 5,705



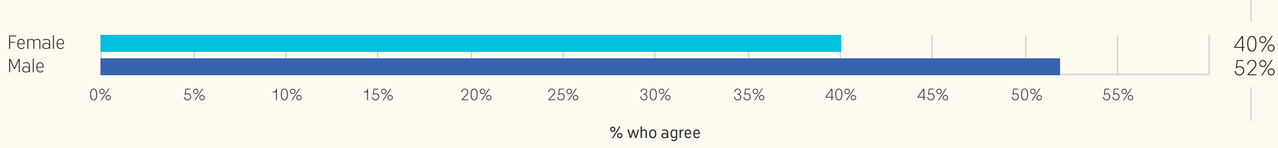
‘I’ve been informed about all the different treatment options related to my condition.’

France n = 326 Germany n = 320 Ireland n = 183 UK n = 256



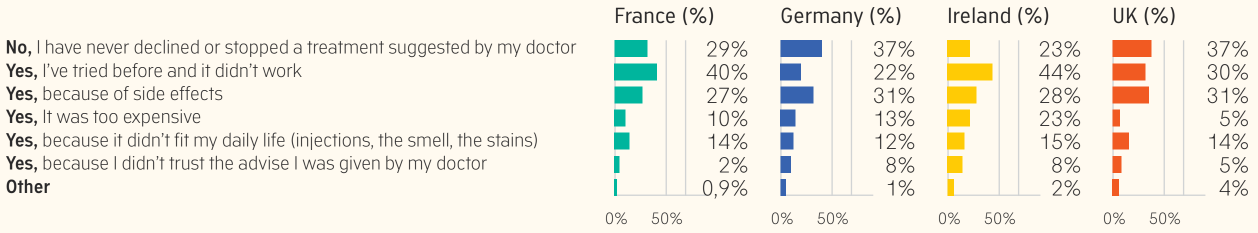
‘I’ve been informed about all the different treatment options related to my condition’

Global n = 5,485



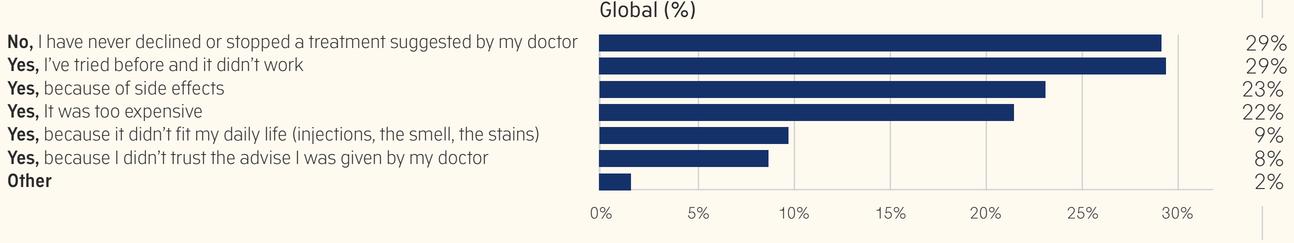
‘Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?’

France n = 315 Germany n = 309 Ireland n = 182 UK n = 246



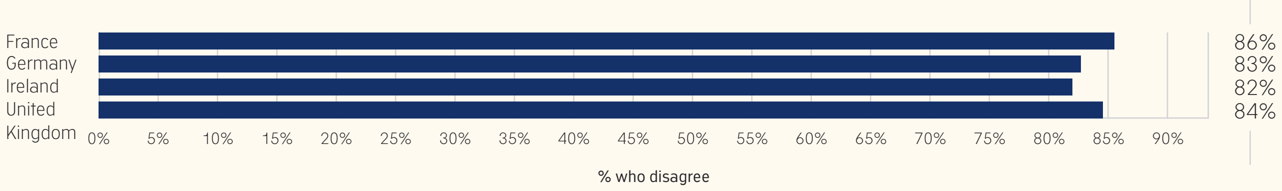
‘Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?’

Global n = 5,500



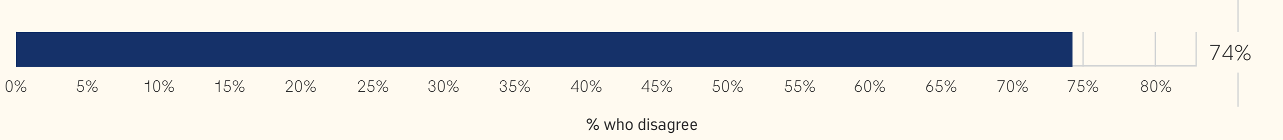
‘There is sufficient public awareness regarding my disease’

France n = 326 Germany n = 318 Ireland n = 182 UK n = 257



‘There is sufficient public awareness regarding my disease’

Global n = 5,457



The Nordics

The Nordics

Selected countries:
Norway and Denmark

What's it like to live with psoriasis in the world's happiest countries?

For years, Denmark and Norway have been recognised as two of the happiest countries in the world due to their rankings in the *World Happiness Report*. This is no coincidence. Both countries perform well on all the basic drivers of general happiness: social support, trust, wealth, freedom etc.

However, people living with psoriasis in Norway and Denmark are not nearly as happy as Norwegians and Danes are in general.

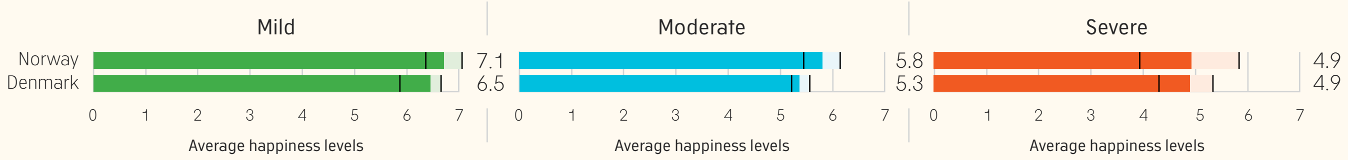
People living with severe psoriasis in Denmark and Norway are roughly 35% less happy than the general populations. This means Denmark and Norway rank among the bottom 5 countries for people living with severe psoriasis. As explored in Chapter 2, this could be explained by 'the social comparison paradox' - that living with a disease is more difficult in a country where your fellow citizens have high levels of happiness.

Pia, 51, Denmark

> 'My biggest dream right now is to stay here in Israel at the Dead Sea where my psoriasis is only a third of what it normally is.'

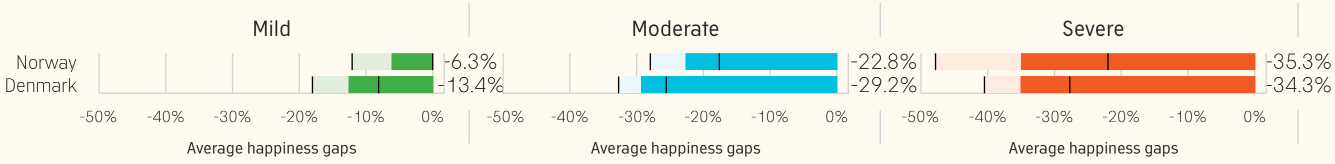
Average happiness levels per severity

Norway n = 403 Denmark n = 338



Average happiness gap by severity

Norway n = 403 Denmark n = 338



Danes are stressed more often...

The insights on stress make a compelling case that Danes are more stressed than Norwegians[109]. For instance, while 33% of people with mild psoriasis in Norway report high stress levels, 46% of Danes with mild psoriasis report this. Even more telling is the number of people who often feel that 'difficulties were piling up so high that they could not overcome them'. In Norway, only 18% of men and 12% of women feel this way. In Denmark, 28% of men and almost half of women (48%) feel this way.

Additionally, while men are more stressed than women in Norway, the opposite holds true in Denmark.

46%

46% of people living in Denmark with mild psoriasis are stressed.

44%

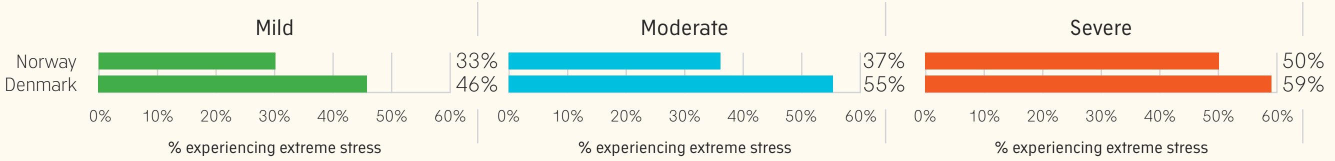
44% of men living in Denmark with psoriasis are stressed.

57%

57% of women living in Denmark with psoriasis are stressed.

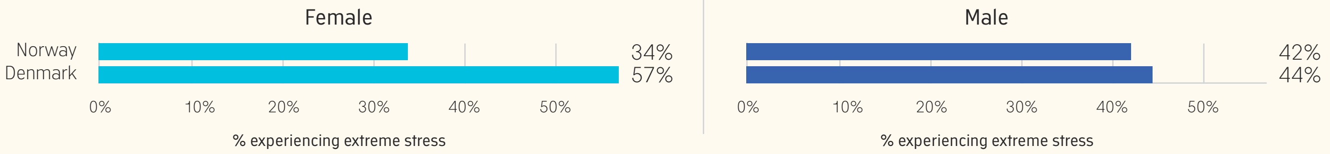
Percentage of people experiencing extreme stress

Norway n = 102 Denmark n = 190



Percentage of people experiencing extreme stress

Norway n = 102 Denmark n = 313



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[109] In the Nordics, the threshold of living with 'extreme' stress is above '21' – according to the calculation used in Chapter 2

Stress related statements	Gender	Norway	Denmark	Global
In the last month, how often have you felt nervous and stressed? 'Very often' and 'Fairly often'	Female	49% n = 51	59% n = 221	62% n = 6,655
	Male	39% n = 56	39% n = 98	42% n = 4,648
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 'Very often' and 'Fairly often'	Female	12% n = 49	48% n = 214	37% n = 6,411
	Male	18% n = 55	28% n = 92	24% n = 4,422
In the last month, how often have you been angered because of things that were outside your control? 'Very often' and 'Fairly often'	Female	24% n = 49	53% n = 214	45% n = 6,434
	Male	35% n = 55	32% n = 93	32% n = 4,443

...But Norwegians are lonely more often

Initially, it seems puzzling that both countries have equally low happiness levels when Danes are significantly more stressed than Norwegians. Part of the answer could lie in levels of loneliness. Because while Danes are stressed more often, Norwegians are lonely more often.

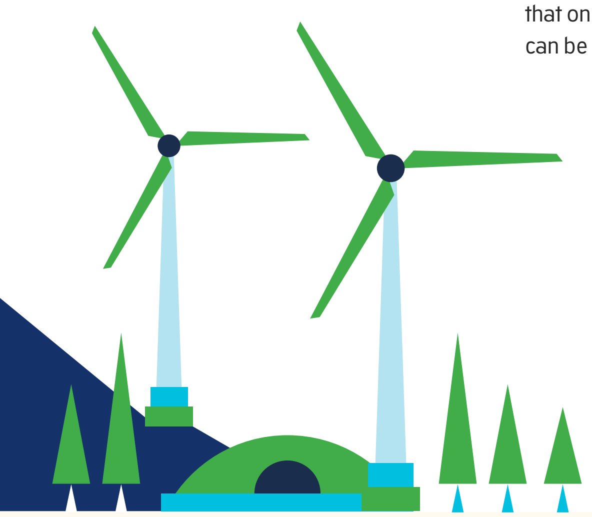
For the people with severe psoriasis, one in three Danes are lonely, while half of Norwegians struggle with loneliness. Both numbers are clearly extremely high, especially when compared to the general population in Denmark (using the same scale of loneliness and interpretation method) which shows that only 4.6% of the general population can be considered lonely.

1/3

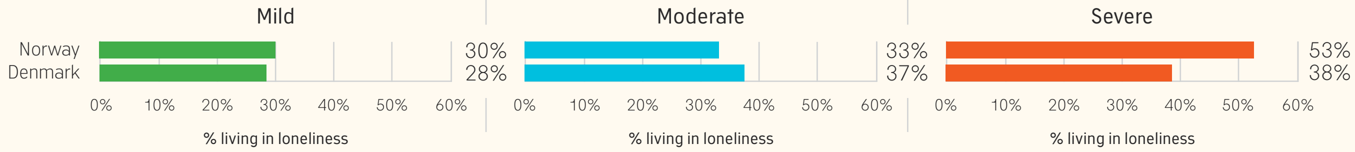
1 in 3 Danes with severe psoriasis are lonely, while half of Norwegians struggle with loneliness

4.6%

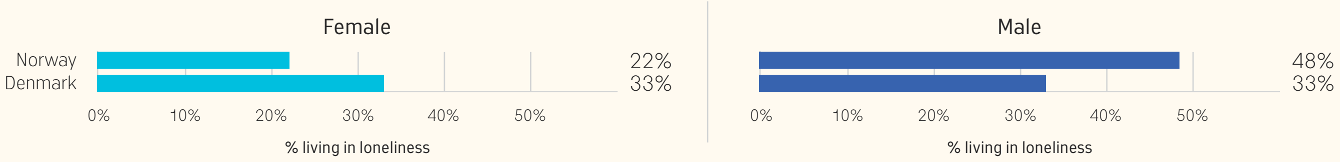
4.6% of the general Danish population can be considered lonely.

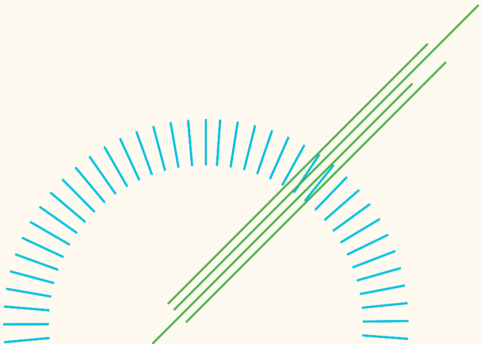


Percentage of people living in loneliness by severity
Norway n = 100 Denmark n = 194

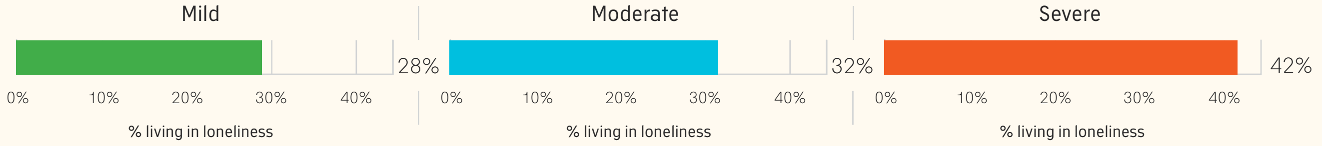


Percentage of people living in loneliness by gender
Norway n = 100 Denmark n = 208

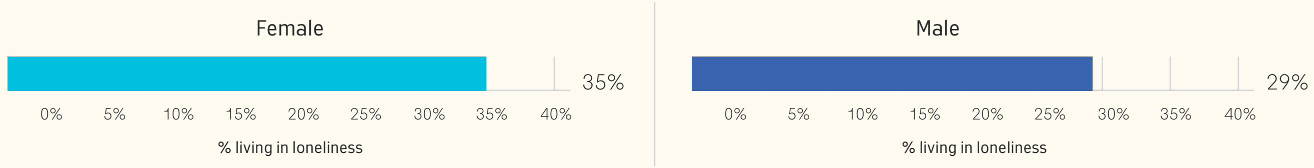




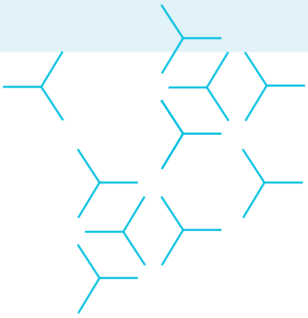
Global loneliness by severity
n = 5,171

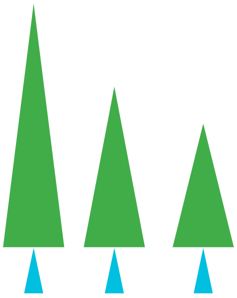


Global loneliness by gender
n = 5,399



Loneliness related statements	Gender	Norway	Denmark	Global
How often do you feel that you lack companionship? 'Always'	Female	26% n = 47	28% n =154	28% n = 3,375
	Male	38% n = 55	31% n = 49	24% n = 1,991
How often do you feel left out? 'Always'	Female	17% n = 47	19% n = 154	25% n = 3,361
	Male	28% n = 54	22% n = 49	19% n = 1,955
How often do you feel isolated from others? 'Always'	Female	17% n = 46	27% n = 154	26% n = 3,371
	Male	36% n = 55	25% n = 48	21% n = 1,955





More than two thirds of Danes feel they have little to be proud of

In Denmark, confidence levels seem to be markedly affected by living with psoriasis. This is true for both men and women. In Denmark, 67% of women and 71% of men feel they do not have much to be proud of.

As far as gender differences are concerned, it's hard to determine whether Danish men lack confidence more than Danish women. While significantly more women (62% vs 50%) feel useless, men more often feel like a failure (48% vs. 34%).

Confidence related statements	Gender	Norway	Denmark	Global
I certainly feel useless at times. 'Agree'/'Strongly agree'	Female	N/A	62% n = 86	51% n = 4,432
	Male	N/A	50% n = 34	42% n = 3,567
I feel I do not have much to be proud of. 'Agree'/'Strongly agree'	Female	N/A	67% n = 86	42% n = 4,461
	Male	N/A	71% n = 34	45% n = 3,622
All in all, I am inclined to feel that I am a failure. 'Agree'/'Strongly agree'	Female	N/A	34% n = 87	34% n = 4,318
	Male	N/A	48% n = 33	33% n = 3,443

Note: The sample size for Norway is not sufficient for analysis.

The majority of Danes lack social support

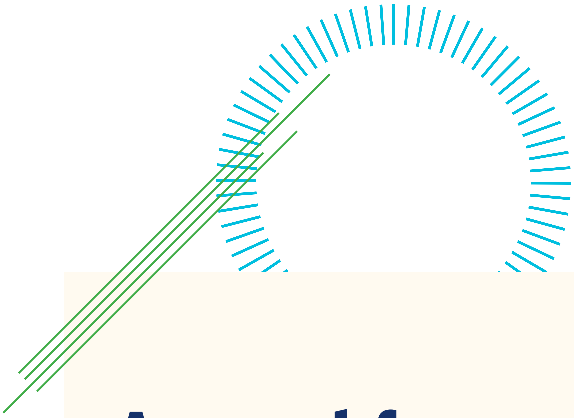
The social support of both friends and family falls short for the majority of Danes with psoriasis. Only about 40% of women and men agree that their closest friends and family understand what it is like to deal with psoriasis.

Social support related statements	Gender	Norway	Denmark	Global
My closest friends understand what it is like for me to deal with psoriasis 'Agree' / 'Strongly agree'	Female	N/A	40% n = 88	42% n = 3,715
	Male	N/A	38% n = 32	43% n = 2,718
My closest family understand what it is like for me to deal with psoriasis 'Agree' / 'Strongly agree'	Female	N/A	47% n = 93	50% n = 3,820
	Male	N/A	52% n = 33	54% n = 2,799
I know somebody who also has psoriasis and we share thoughts and experiences 'Agree'/ 'Strongly agree'	Female	N/A	33% n = 91	39% n = 3,651
	Male	N/A	38% n = 32	43% n = 2,648

Note: The sample size for Norway is not sufficient for analysis.

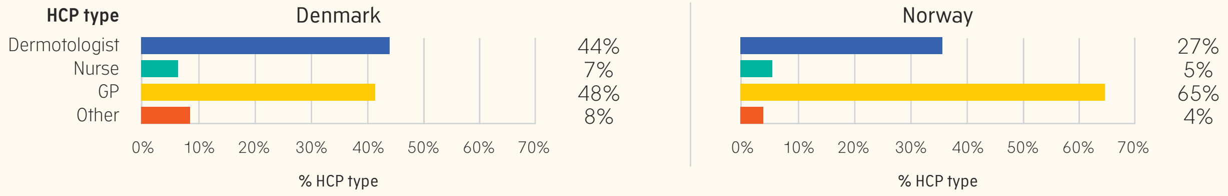
40%

Only about 40% of both women and men agree that their closest friends and family understand what it is like to deal with psoriasis.

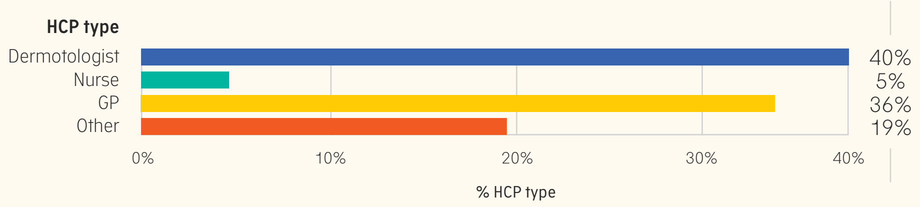


A need for more understanding from universal healthcare

‘Who is your primary healthcare professional in relation to your psoriasis?’
Denmark n = 222 Norway n = 108



‘Who is your primary healthcare professional in relation to your psoriasis?’
Global n = 6,150

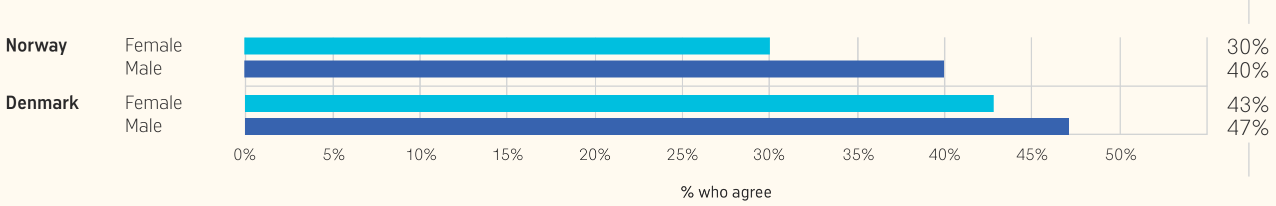


Both Norway and Denmark are characterised as generous welfare states that (among other services) provide universal healthcare. However, judging from our data, more widespread access to healthcare doesn’t necessarily equal more satisfaction with healthcare professionals.

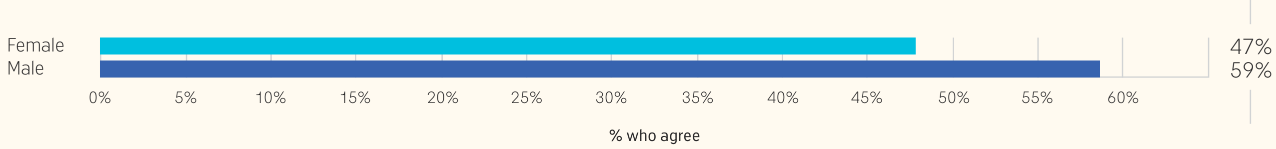
Only a minority of Norwegians and Danes living with psoriasis (between 30% and 47%) agree that their healthcare professionals fully understand the impact psoriasis has on their mental well-being. Additionally, only about a third of Norwegians and Danes feel they have been informed about all the available treatment options for their condition.

Lastly, more than 80% of Nordics agree that there is not enough awareness regarding their disease.

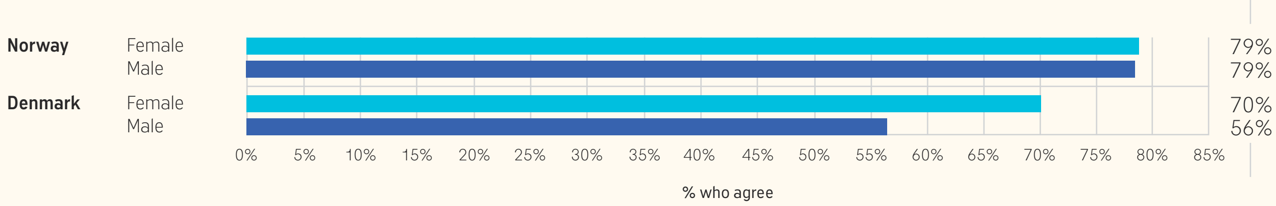
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’
Norway n = 106 Denmark n = 216



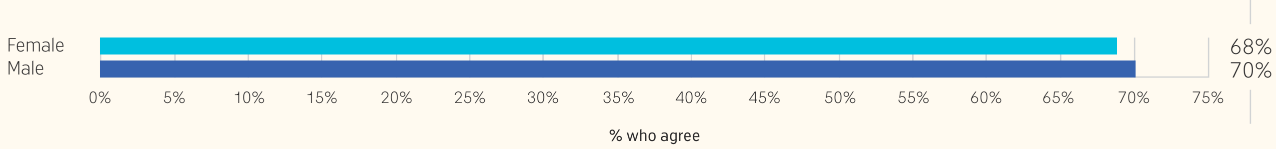
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being
Global n = 5,716



‘I can get in touch with the healthcare professional when I’m in need’
Norway n = 106 Denmark n = 213

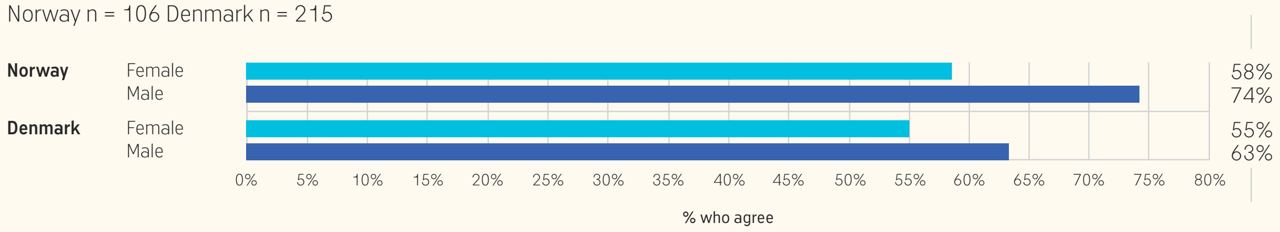


‘I can get in touch with the healthcare professional when I’m in need’
Global n = 5,578



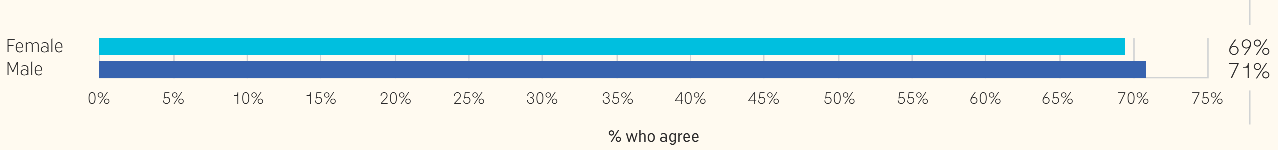
‘I always follow the advice of my healthcare professionals’

Norway n = 106 Denmark n = 215



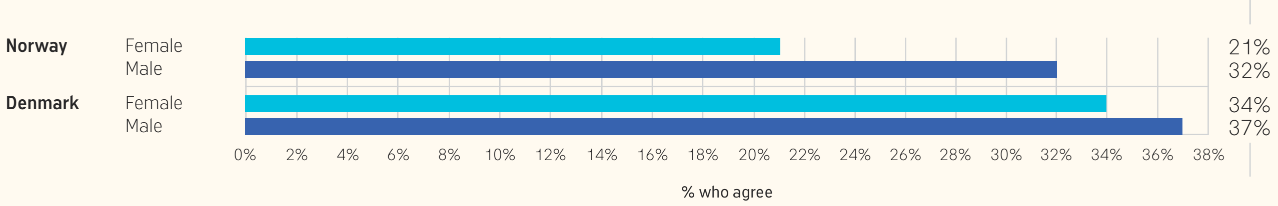
‘I always follow the advice of my healthcare professionals’

Global n = 5,705



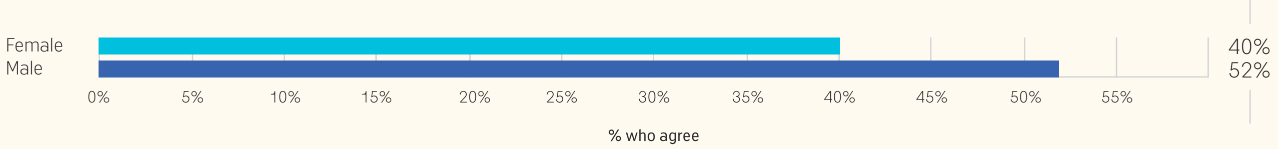
‘I’ve been informed about all the different treatment options related to my condition’

Norway n = 105 Denmark n = 213



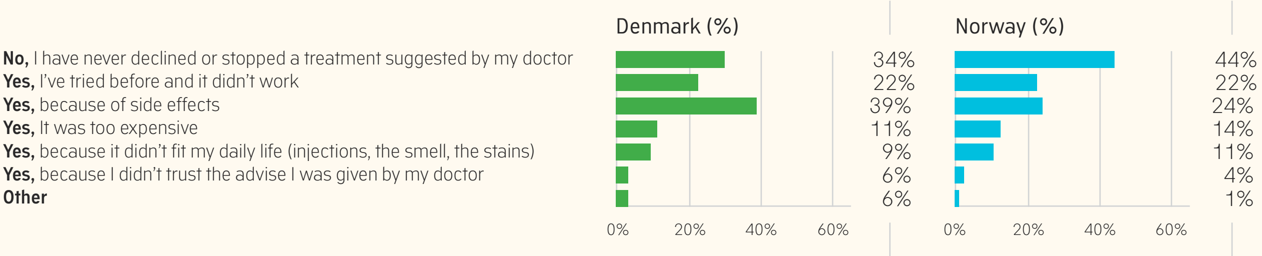
‘I’ve been informed about all the different treatment options related to my condition’

Global n = 5,485

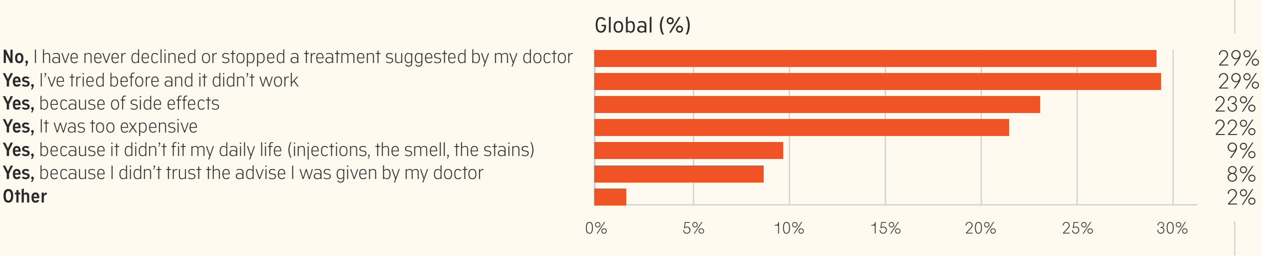


'Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?'

Norway n = 98 Denmark n = 212

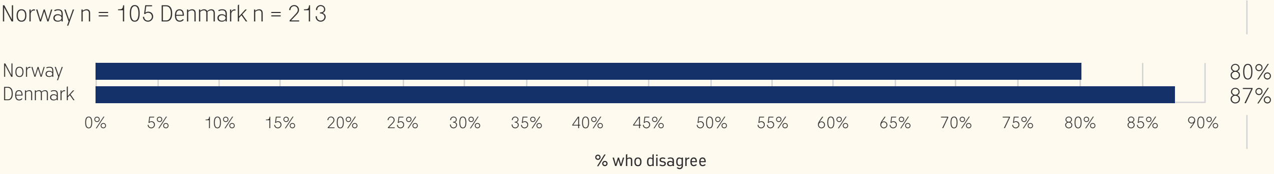


'Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?' - global (n = 5,500)



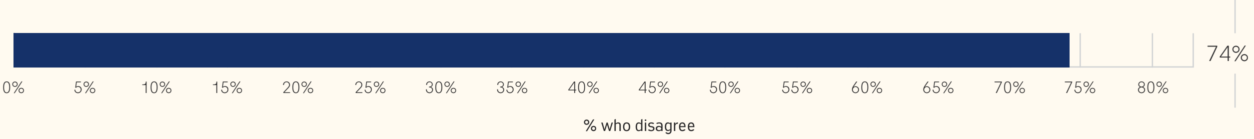
'There is sufficient public awareness regarding my disease'

Norway n = 105 Denmark n = 213



'There is sufficient public awareness regarding my disease'

Global n = 5,457



Russian Federation

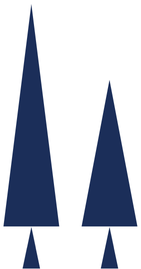
Russian Federation

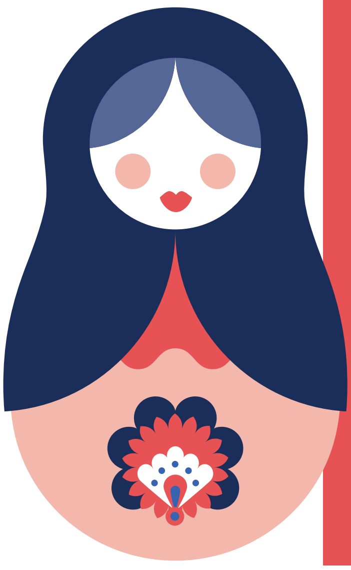
It's hard to live with severe psoriasis in Russia

At first glance, the happiness gap in the Russian Federation seems less worrying than in other regions.

People living with mild and moderate psoriasis report an average happiness level of 5.9 and 5.6 respectively, which suggests these people don't experience lower levels of well-being than the general population.

However, the data about people with severe psoriasis in the Russian Federation tells another story. These people report an average happiness level of only 4.3 – which is 27.6% lower than the general population.



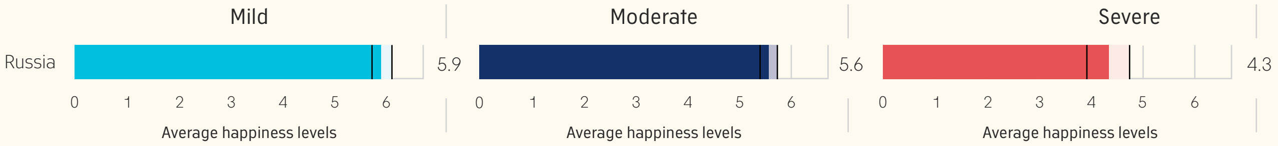


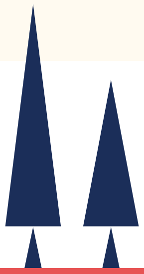
Olga, 61, Russian Federation

'I wish doctors would at least show more empathy and hide their disgust while looking at my skin. Otherwise why did they become dermatologists in first place?! I tend to go to see the dermatologist only if I need to have sick leave for contraindicated activities.'

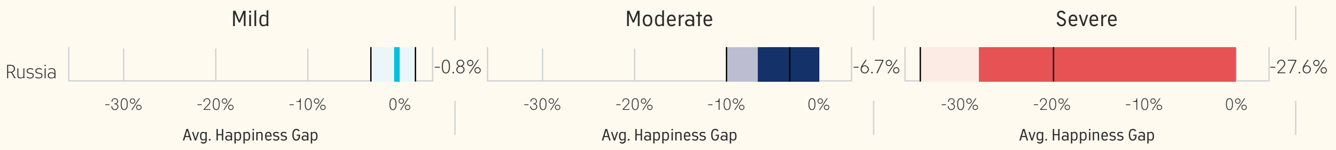
Average happiness level per severity

n = 3,211





Average happiness gaps per severity
n = 3,211



Up to 62% of Russians experience high stress levels

Of all people living with severe psoriasis in Russia, 62% are considered as living with high stress[110]. Given the high happiness gap for this group, this finding is not surprising. What *is* surprising, however, is that 41% - 59% of people with mild or moderate psoriasis are also living with stress.

The Russian Federation is also subject to a major happiness gap between the genders. 52% of women have often felt nervous and stressed in the last month compared to 37% of men. In other words, it is the norm for Russian women to feel nervous and stressed when living with psoriasis.

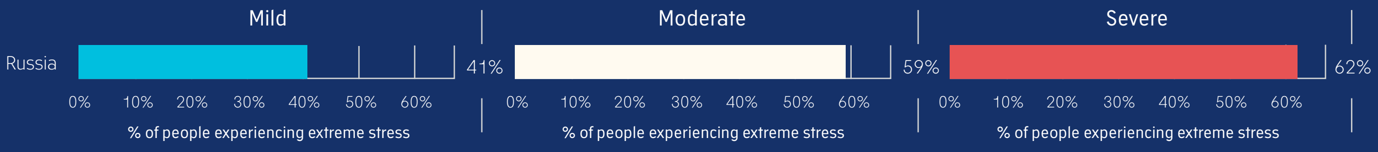
62%

62% of people living in the Russian Federation are considered as living with high stress.

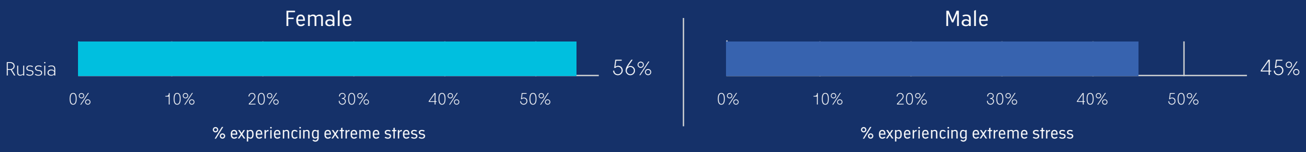
---

[110] In the Russian Federation, the threshold of living with ‘extreme’ stress is ‘20’ – according to the calculation used in Chapter 2. As 20 is equivalent to the ‘high stress’ score in the original interpretation, the label ’extreme’ may be unsuitable in this case.

Percentage of people experiencing extreme stress
n = 313



Percentage of people experiencing extreme stress
n = 680



Stress related statements	Gender	Russia	Global
In the last month, how often have you felt nervous and stressed? 'Very often' and 'Fairly often'	Female	52% n = 419	62% n = 6,655
	Male	37% n = 337	42% n = 4,648
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 'Very often' and 'Fairly often'	Female	24% n = 387	37% n = 6,411
	Male	22% n = 322	24% n = 4,422
In the last month, how often have you been angered because of things that were outside your control? 'Very often' and 'Fairly often'	Female	39% n = 393	45% n = 6,434
	Male	29% n = 318	32% n = 4,443

Up to 31% live in loneliness

For mild and moderate psoriasis, the percentage of people living in loneliness ranges from 22% to 24% respectively. However, the number is 31% for people living with severe psoriasis.

This again shows that stress and loneliness are non-discriminatory factors which affect people with psoriasis regardless of their severity. Women also report experiencing more loneliness than men, but the gap is significantly lower.

31%

31% of people living in Russia with severe psoriasis are living in loneliness.

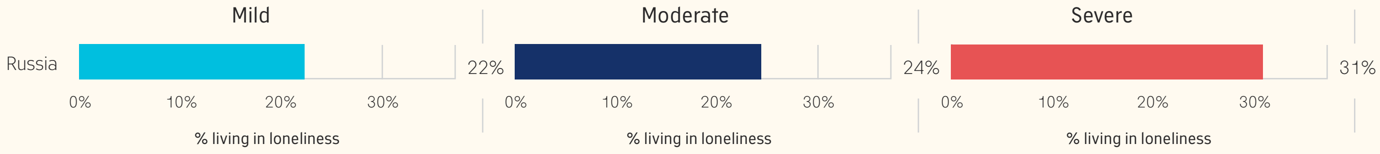
22%

22% of people living in Russia with mild psoriasis are living in loneliness.

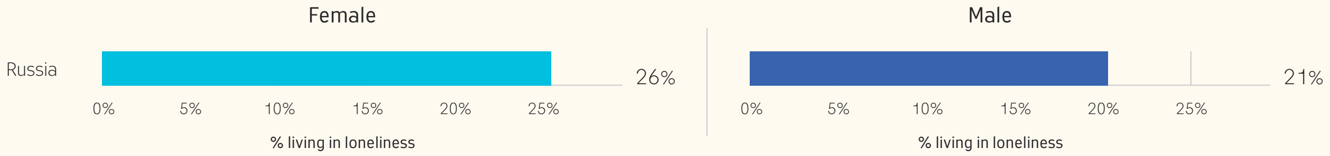
24%

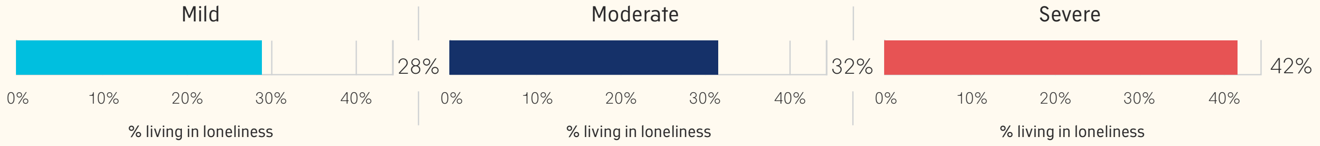
24% of people living in Russia with moderate psoriasis are living in loneliness.

Percentage of people living in loneliness by severity
n = 321

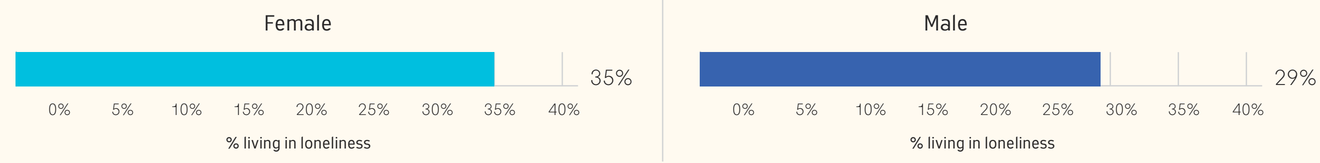


Percentage of people living in loneliness by gender
n = 327





Global loneliness by severity
n = 5,171



Global loneliness by gender
n = 5,399

Loneliness related statements	Gender	Russia	Global
How often do you feel that you lack companionship? 'Always'	Female	22% n = 183	28% n = 3,375
	Male	19% n = 151	24% n = 1,991
How often do you feel left out? 'Always'	Female	21% n = 179	25% n = 3,361
	Male	16% n = 147	19% n = 1,955
How often do you feel isolated from others? 'Always'	Female	18% n = 179	26% n = 3,371
	Male	17% n = 144	21% n = 1,955

More than 40% feel useless at times

Many people in Russia with psoriasis are struggling with low self-esteem. For instance, 42% of women and 44% of men agree that they feel useless at times. And a third of the respondents are inclined to feel that they are failures. Cultural differences could be why women have lower numbers than the global averages.

42% of women and 44% of men agree that they feel useless at times

42% of women

44% of men

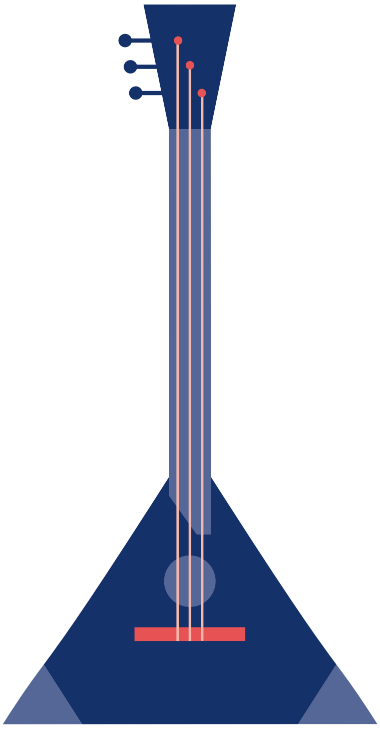
Confidence related statements	Gender	Russia	Global
I certainly feel useless at times. 'Agree'/'Strongly agree'	Female	42% n = 494	51% n = 4,432
	Male	44% n = 477	42% n = 3,567
I feel I do not have much to be proud of. 'Agree'/'Strongly agree'	Female	24% n = 500	42% n = 4,461
	Male	31% n = 482	45% n = 3,622
All in all, I am inclined to feel that I am a failure. 'Agree'/'Strongly agree'	Female	33% n = 475	34% n = 4,318
	Male	31% n = 461	33% n = 3,443

Fewer than half of the respondents have understanding friends

In Russia, roughly half of the population believe they are surrounded by family who understand the impact psoriasis on their daily lives. Sadly, the situation is even worse when considering 'understanding from friends'. Less than half of the respondents agree that their friends understand their situation. Lastly, there are no significant differences between genders regarding levels of social support.

Social support related statements	Gender	Russia	Global
My closest friends understand what it is like for me to deal with psoriasis 'Agree' / Strongly agree'	Female	45% n = 299	42% n = 3,715
	Male	46% n = 275	43% n = 2,718
My closest family understand what it is like for me to deal with psoriasis 'Agree' / 'Strongly agree'	Female	53% n = 312	50% n = 3,820
	Male	54% n = 285	54% n = 2,799
I know somebody who also has psoriasis and we share thoughts and experiences 'Agree' / 'Strongly agree'	Female	41% n = 298	39% n = 3,651
	Male	41% n = 272	43% n = 2,648

Women are unsatisfied with their healthcare professionals

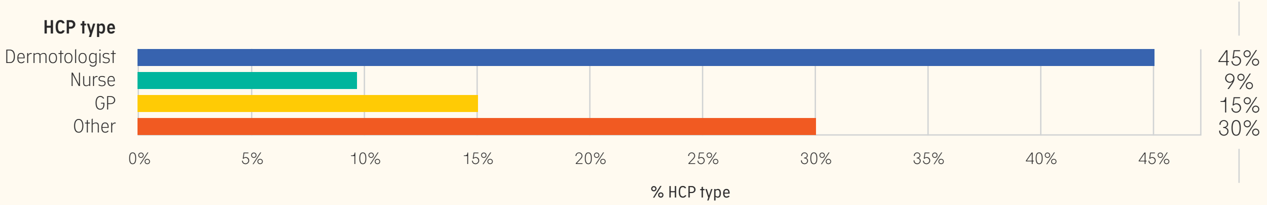


Russian women with psoriasis tend to be unhappier about their experiences with healthcare professionals than men. While 62% of all men agree that their healthcare professional fully understands the impact psoriasis has on mental well-being, less than half (49%) of the women feel this way.

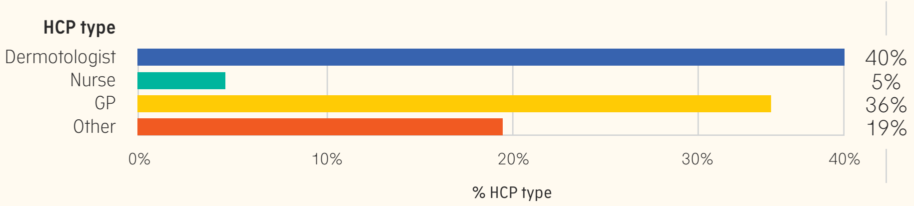
Considering that a lack of understanding could be a major source of unhappiness (as explored in Chapter 1), this finding is concerning.

Women also feel less able to get in touch with their healthcare professional when they're in need (55% for women vs. 70% for men) and only 41% feel that they have been informed of all available treatment types. Finally, 55% of Russians indicate a desire for more awareness about psoriasis.

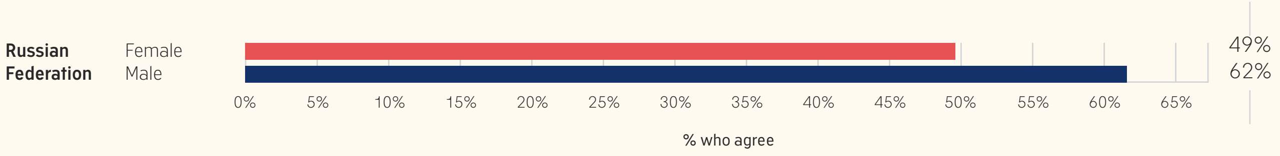
'Who is your primary healthcare professional in relation to your psoriasis?'
n = 384



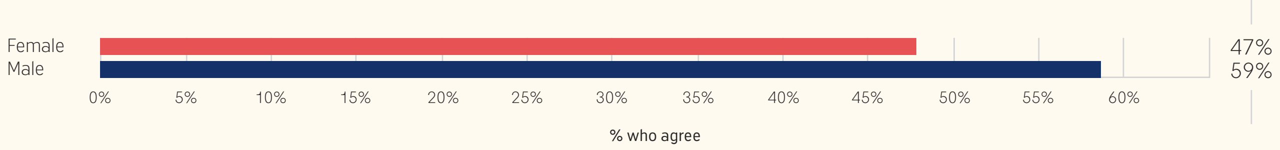
'Who is your primary healthcare professional in relation to your psoriasis?'
Global n = 6,150



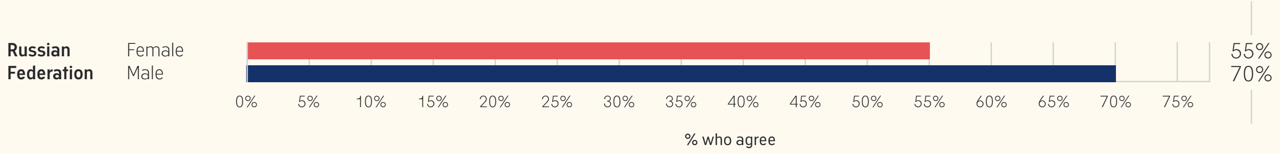
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’
n = 350



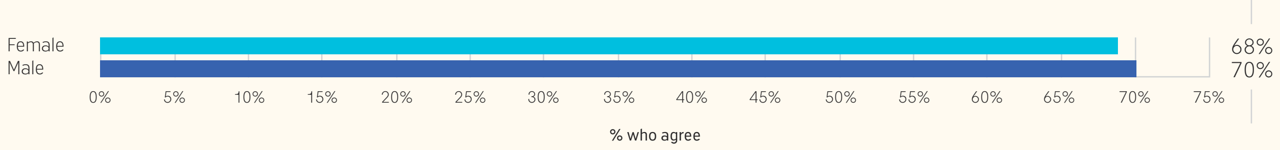
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’
Global n = 5,716



‘I can get in touch with the healthcare professional when I’m in need’
n = 342

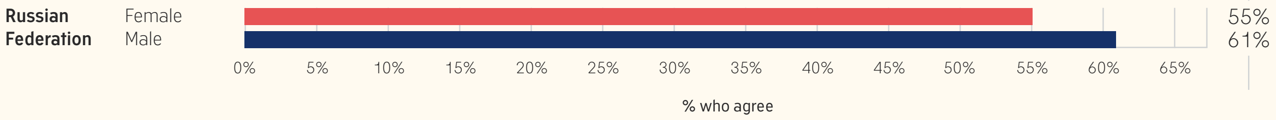


‘I can get in touch with the healthcare professional when I’m in need’
Global n = 5,578



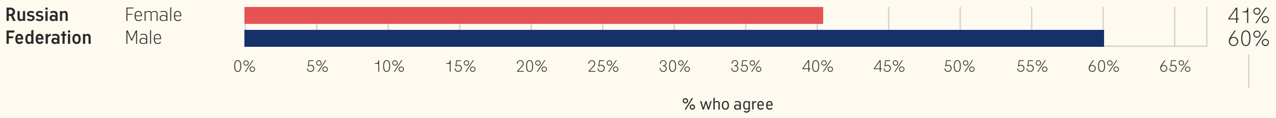
‘I always follow the advice of my healthcare professionals.’

n =353



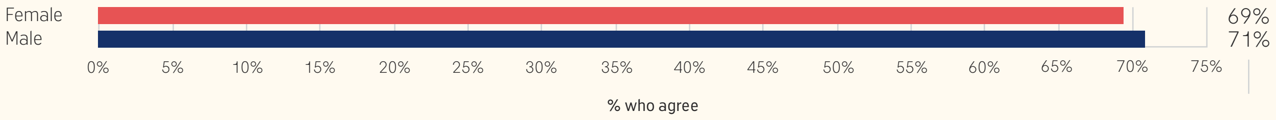
‘I’ve been informed about all the different treatment options related to my condition.’

n =333



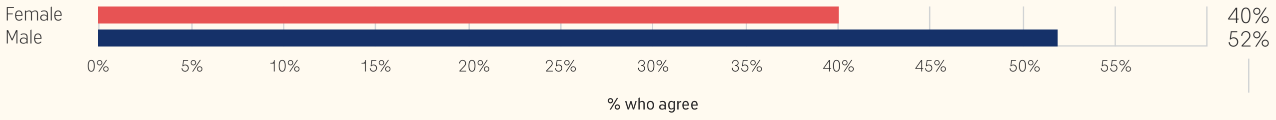
‘I always follow the advice of my healthcare professionals.’

Global n = 5,705



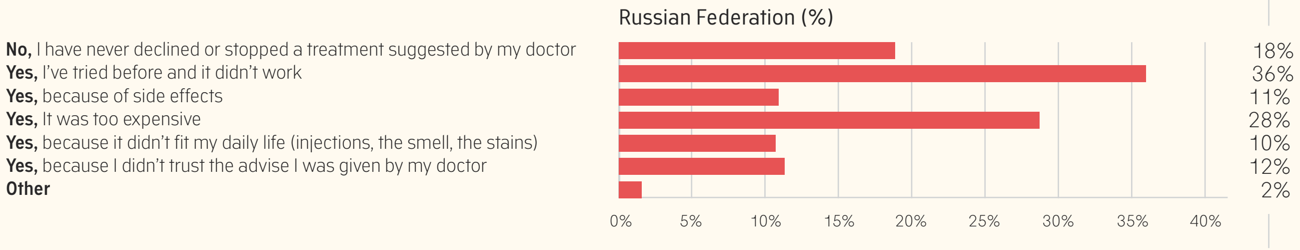
‘I’ve been informed about all the different treatment options related to my condition.’

Global n = 5,485



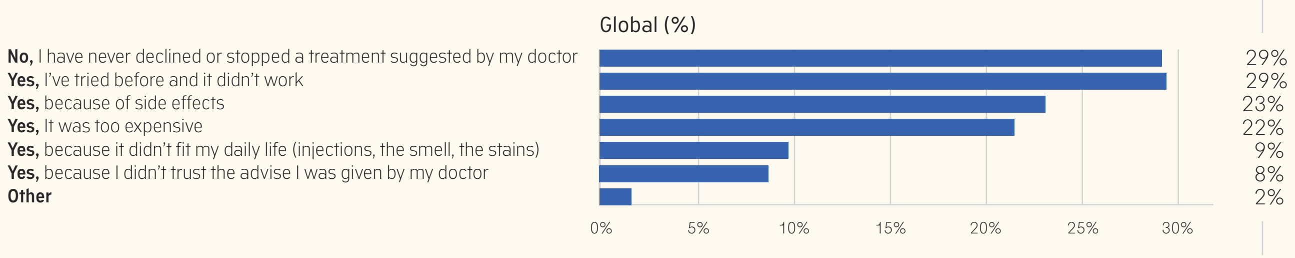
‘Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?’

n = 336



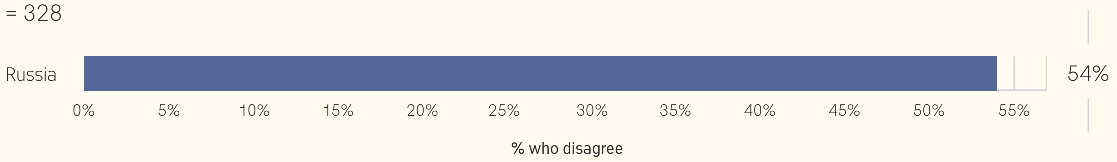
‘Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?’

Global n = 5,500



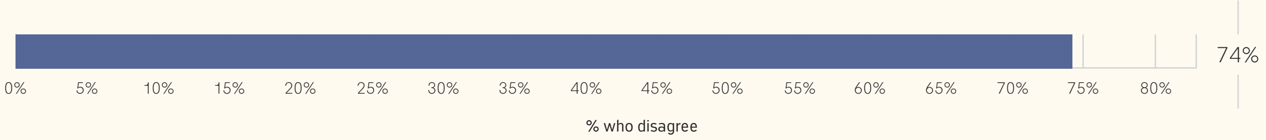
‘There is sufficient public awareness regarding my disease’

n = 328



‘There is not sufficient public awareness regarding my disease’

Global n = 5,457



Southern Europe

Southern Europe

Selected countries:

Spain, Italy, Greece and Portugal

Positive happiness gaps in Greece and Portugal

In Southern Europe, psoriasis has a moderately negative effect on quality of life. However, the impact is markedly different from country to country.

Looking at absolute happiness levels, Spanish people with severe psoriasis report an average score of 5.8 and Italians 4.2. This makes Spanish people with severe psoriasis the second happiest population of all countries in this study – and Italian people with severe psoriasis the least happy.

For people with severe psoriasis, Greece, Portugal and Spain have negative happiness gaps (between 7% and 9%), while Italians report an average gap of 30%. However, in Portugal and Greece, people with mild and moderate psoriasis have positive gaps (around 25% for mild and 4-11% for moderate).

This observation is interesting and potentially very useful as it could uncover ways to promote happiness for people living with psoriasis. One explanation for these gaps could be that people living in collectivistic countries seem to be less impacted by psoriasis, or in the case of Greece and Portugal, even experience a positive gap (as explored in chapter 2). People living in Southern Europe also tend to be more satisfied with their healthcare professionals and systems than in other regions.

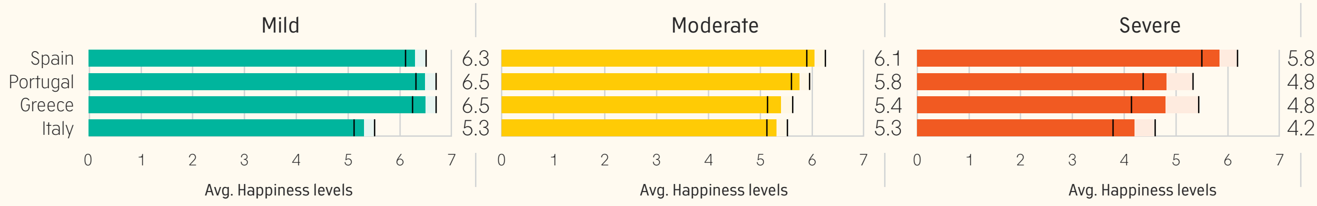
Considering that the general populations in the selected countries in Southern Europe - particularly Greece and Portugal - are subject to very low levels of average happiness (by European standards), their collectivistic culture may be contributing significantly to the happiness levels for people living with psoriasis. However, to fully understand these positive gaps, further analysis and tests are required.

Veronica, 34, Italy

‘I have never had much self-confidence, now I am a pale red-head living in Rome where are the women are tanned and tiny and beautiful! Then five years ago I got my first bout of psoriasis and it has come and gone ever since.’

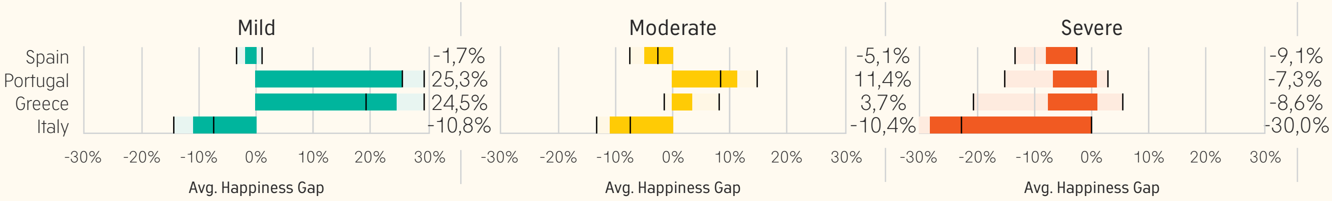
Average happiness levels per severity

Spain n = 2,683 Portugal n = 2,290 Greece n = 483 Italy n = 1,786

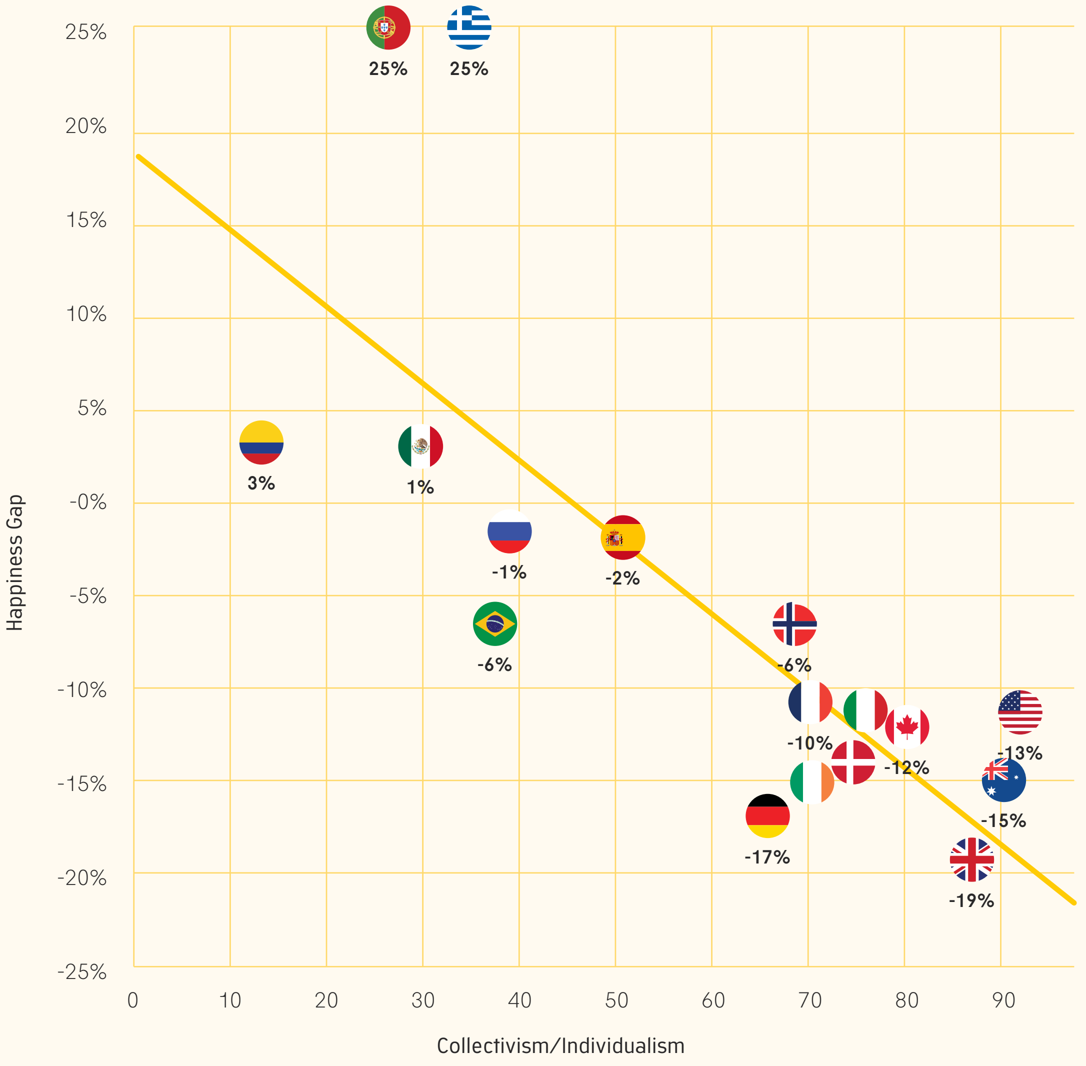


Average happiness gap per severity

Spain n = 2,683 Portugal n = 2,290 Greece n = 483 Italy n = 1,786



Average happiness gaps and culture (collectivism/individualism) for mild psoriasis[111]



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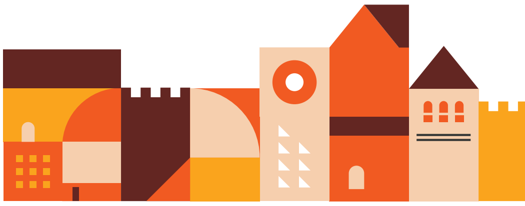
[111] Trend description: R-Squared: 0.596 Standard error: 0.085 p-value (significance): <0.000 (n = 10,925)

Stress is most prevalent in Italy

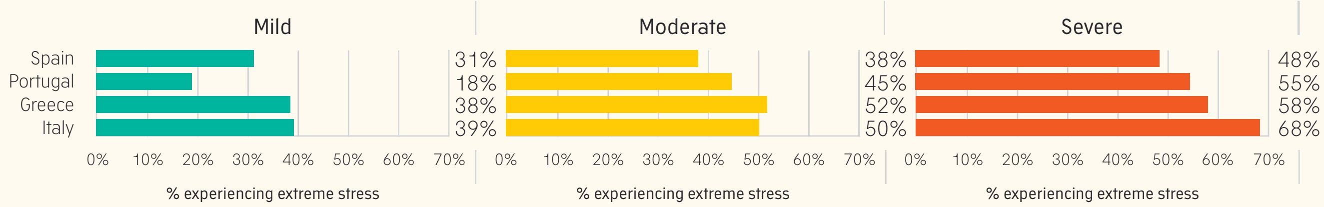
68% of Italians with severe psoriasis report high stress levels. In Greece, this number is 58%. For Spain and Portugal, it is 48% and 56% respectively.

The big difference lies in the equal distribution of stress levels between the genders in Greece and Italy. While women report stress in all four countries, men are only very affected in Greece and Italy. For instance, while 69% of Greek men and 53% of Italian men often feel nervous and stressed, this is 'only' the case for 37% of Spanish men and 39% of Portuguese men.



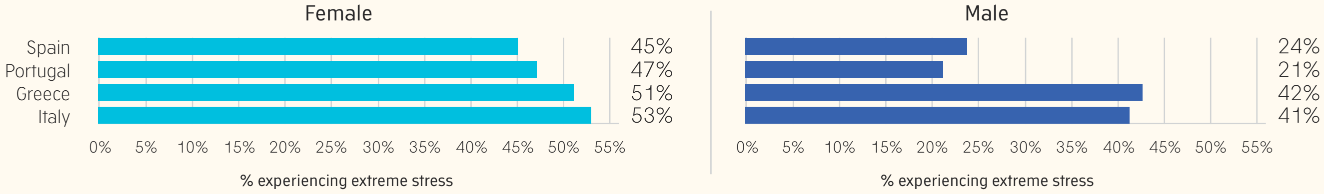
Percentage of people experiencing extreme stress

Spain n = 374 Portugal n = 335 Greece n = 263 Italy n = 372



Percentage of people experiencing extreme stress

Spain n = 848, Portugal n = 704 Greece n = 267 Italy n = 758



Stress related statements	Gender	Spain	Portugal	Greece	Italy	Global
In the last month, how often have you felt nervous and stressed? 'Very often' and 'Fairly often'	Female	60% n = 531	61% n = 434	78% n = 151	72% n = 469	62% n = 6,655
	Male	37% n = 377	39% n = 295	69% n = 122	53% n = 333	42% n = 4,648
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 'Very often' and 'Fairly often'	Female	30% n = 500	35% n = 427	53% n = 149	40% n = 460	37% n = 6,411
	Male	23% n = 348	21% n = 289	41% n = 121	22% n = 321	24% n = 4,422
In the last month, how often have you been angered because of things that were outside your control? 'Very often' and 'Fairly often'	Female	37% n = 497	36% n = 426	49% n = 148	47% n = 459	45% n = 6,434
	Male	28% n = 350	23% n = 288	48% n = 121	35% n = 321	32% n = 4,443

Greek men are more often lonely

In Southern Europe, Greece has the highest frequency of loneliness. It is experienced by 24% of Greeks with mild psoriasis, 39% of those with moderate psoriasis and 41% of those with severe psoriasis. Greece is also the only Southern European country where men are lonely more often than women.

41%

41% of people living in Greece with severe psoriasis are lonely.

39%

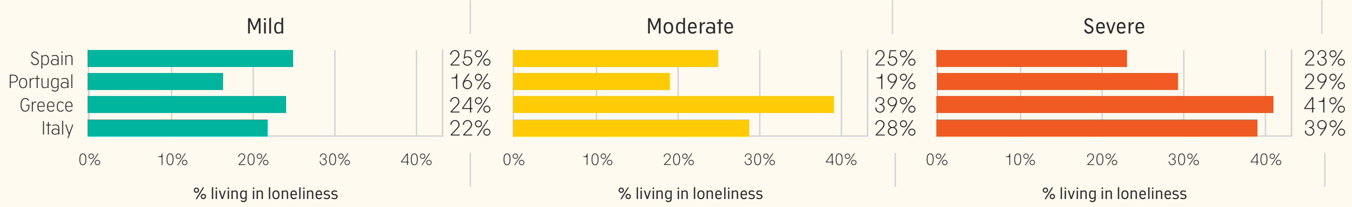
39% of people living in Greece with moderate psoriasis are lonely.

24%

24% of people living in Greece with mild psoriasis are lonely.

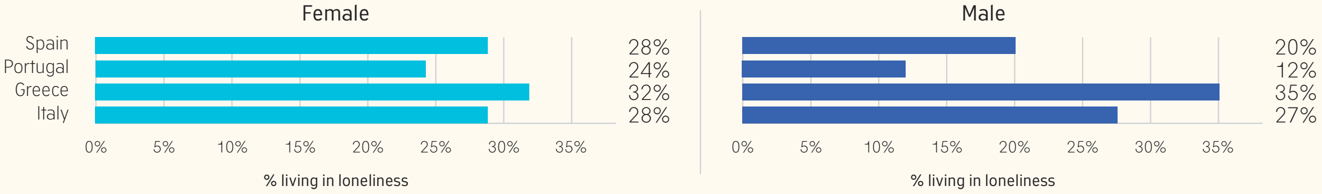
Percentage of people living in loneliness by severity

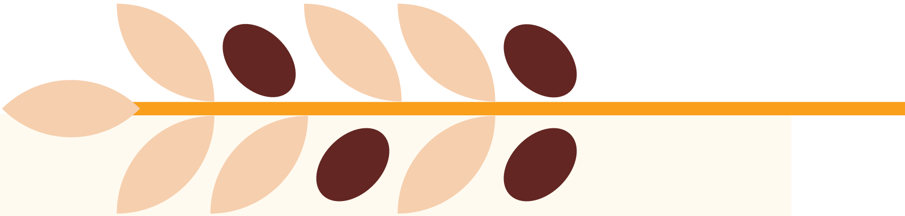
Spain n = 375 Portugal n = 345 Greece n = 260 Italy n = 370



Percentage of people living in loneliness by gender

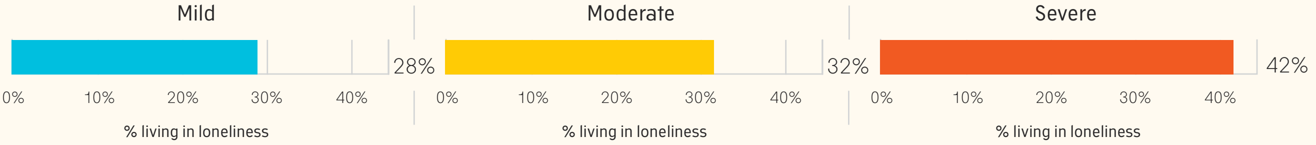
Spain n = 392, Portugal n = 343 Greece n = 263 Italy n = 380





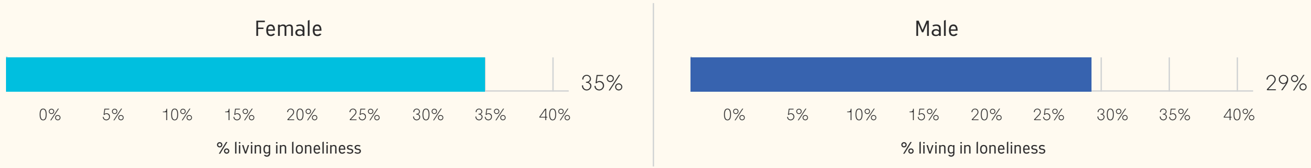
Global loneliness by severity

n = 5,171



Global loneliness by gender

n = 5,399



Loneliness related statements	Gender	Spain	Portugal	Greece	Italy	Global
How often do you feel that you lack companionship? 'Always'	Female	24% n = 240	20% n = 200	32% n = 147	25% n = 225	28% n = 3,375
	Male	24% n = 148	13% n = 122	26% n = 118	19% n = 152	24% n = 1,991
How often do you feel left out? 'Always'	Female	21% n = 236	17% n = 201	24% n = 147	17% n = 225	25% n = 3,361
	Male	14% n = 147	8% n = 121	27% n = 118	18% n = 148	19% n = 1,955
How often do you feel isolated from others? 'Always'	Female	19% n = 239	20% n = 201	18% n = 148	20% n = 228	26% n = 3,371
	Male	17% n = 141	9% n = 119	24% n = 117	19% n = 152	21% n = 1,955

43% of Portuguese women are inclined to feel like failures

Low self-esteem seems to be an issue for a large number of Southern Europeans. When responding to the statement: 'I certainly feel useless at times', Portuguese people, in particular, tend to agree: 39% of men and 52% of women.

Overall, more women tend to agree with the statements below, with the exception of 'I feel I do not have much to be proud of'. Men – particularly Spanish men – agree with this statement more than women. On the bright side, Italian men are least likely to feel like a failure (20% agree with this statement).

39%

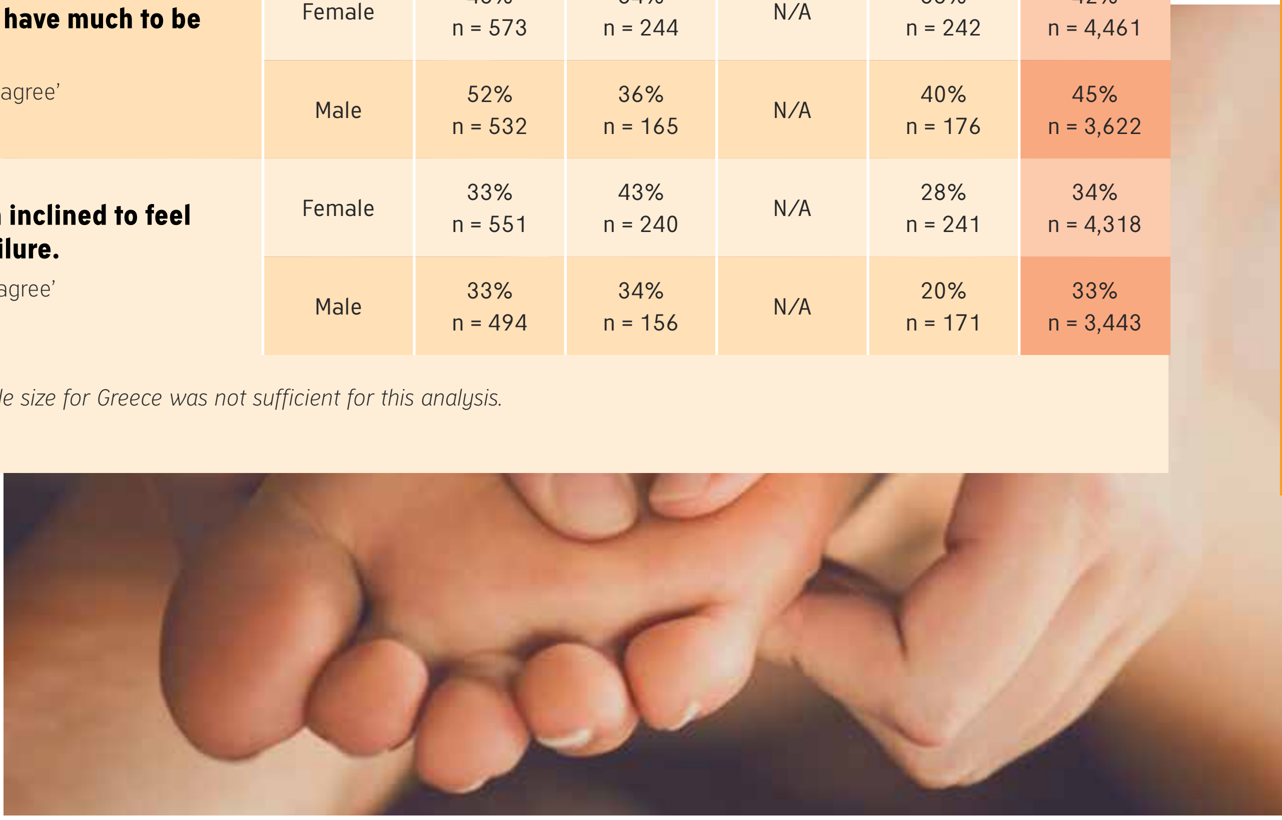
39% of men living in Portugal with psoriasis feel useless at times.

52%

52% of women living in Portugal with psoriasis feel useless at times.

Confidence related statements	Gender	Spain	Portugal	Greece[12]	Italy	Global
I certainly feel useless at times. 'Agree'/'Strongly agree'	Female	45% n = 561	52% n = 244	N/A	44% n = 240	51% n = 4,432
	Male	40% n = 519	40% n = 159	N/A	31% n = 174	42% n = 3,567
I feel I do not have much to be proud of. 'Agree'/'Strongly agree'	Female	48% n = 573	34% n = 244	N/A	36% n = 242	42% n = 4,461
	Male	52% n = 532	36% n = 165	N/A	40% n = 176	45% n = 3,622
All in all, I am inclined to feel that I am a failure. 'Agree/'Strongly agree'	Female	33% n = 551	43% n = 240	N/A	28% n = 241	34% n = 4,318
	Male	33% n = 494	34% n = 156	N/A	20% n = 171	33% n = 3,443

Note: The sample size for Greece was not sufficient for this analysis.



The majority of women in Portugal have understanding friends

Italian women experience less understanding about their disease from their peers than Portuguese and Spanish people, according to the data. While only 36% of Italian women agree that their friends understand what it is like to deal with psoriasis, the percentages are relatively higher in Spain (47%) and Portugal (54%). This pattern can only be applied to women though.

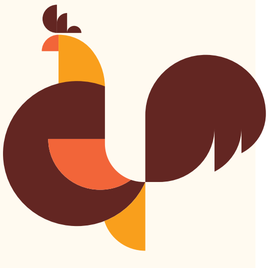
Social support related statements	Gender	Spain	Portugal	Greece	Italy	Global
My closest friends understand what it is like for me to deal with psoriasis 'Agree' / 'Strongly agree'	Female	47% n = 354	54% n = 241	N/A	36% n = 270	42% n = 3,715
	Male	42% n = 315	43% n = 200	N/A	43% n = 270	43% n = 2,718
My closest family understand what it is like for me to deal with psoriasis 'Agree' / 'Strongly agree'	Female	51% n = 368	52% n = 246	N/A	46% n = 279	50% n = 3,820
	Male	52% n = 317	49% n = 207	N/A	63% n = 171	54% n = 2,799
I know somebody who also has psoriasis and we share thoughts and experiences 'Agree' / 'Strongly agree'	Female	49% n = 349	28% n = 235	N/A	34% n = 263	39% n = 3,651
	Male	53% n = 303	39% n = 193	N/A	38% n = 164	43% n = 2,648

Note: The sample size for Greece was not sufficient for this analysis.

36%

Only 36% of Italian women agree that their friends understand what it is like to deal with psoriasis.

Are Southern Europeans living with psoriasis happy with their healthcare?



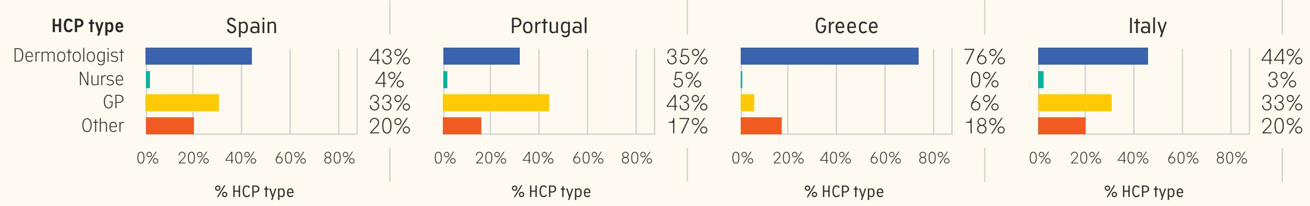
Most Southern European respondents seem to be content with their healthcare and healthcare professionals, according to the data. Most people in these countries - both men and women - report that their healthcare professional understands them.

However, up to 60% of respondents do not feel adequately informed about different treatment options so there seems to be a call for more information.

In Spain, 68% of respondents call for more attention and awareness about their disease. And the numbers are even higher in Portugal (71%), Italy (73%) and Greece (74%).

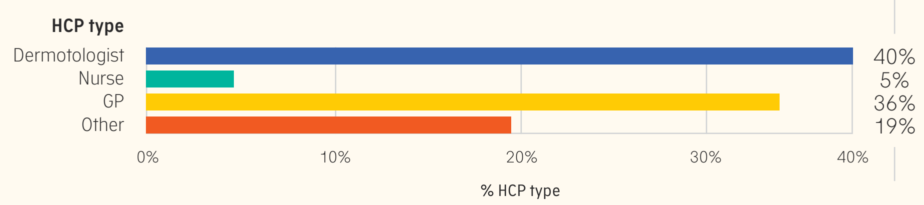
'Who is your primary healthcare professional in relation to your psoriasis?'

Spain n = 446 Portugal n = 384 Greece n = 277 Italy n = 429



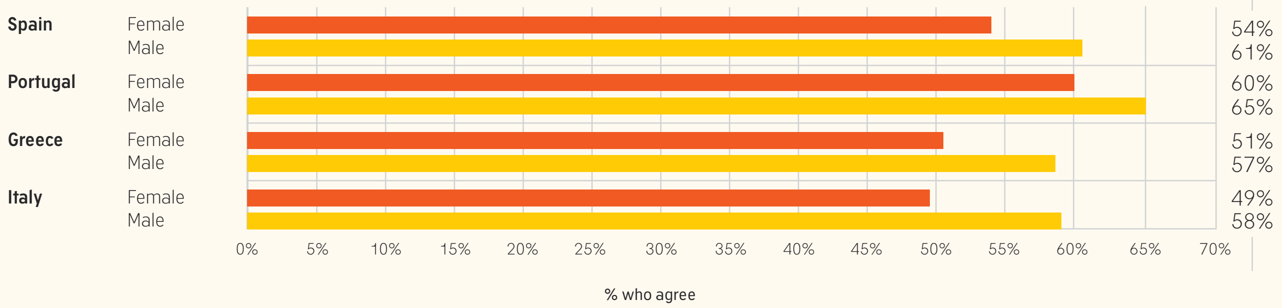
'Who is your primary healthcare professional in relation to your psoriasis?'

Global n = 6,150



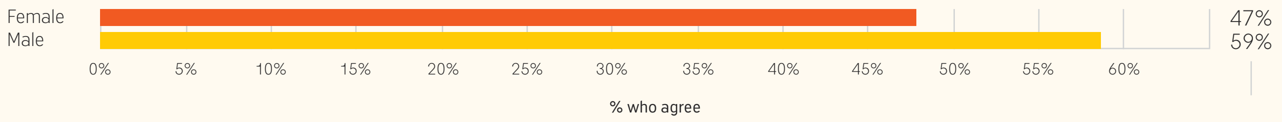
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’

Spain n = 415 Portugal n = 356 Greece n = 262 Italy n = 399



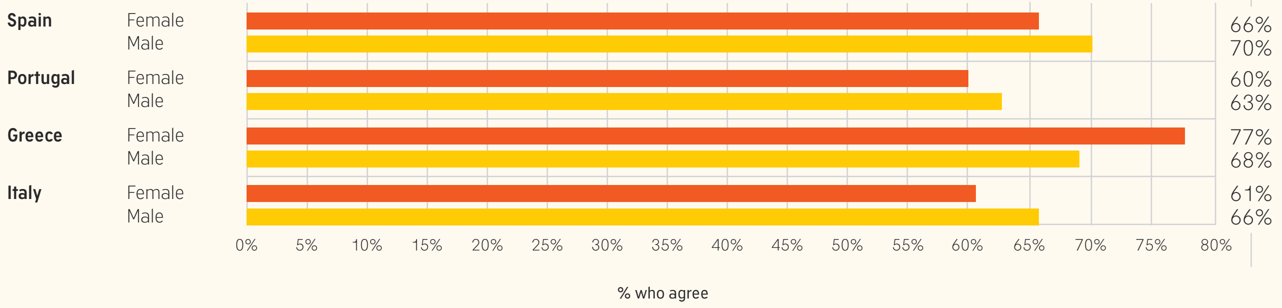
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’

Global n = 5,716



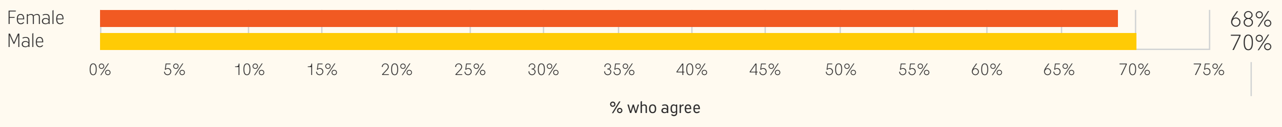
‘I can get in touch with the healthcare professional when I’m in need’

Spain n = 403 Portugal n = 343 Greece n = 255 Italy n = 394

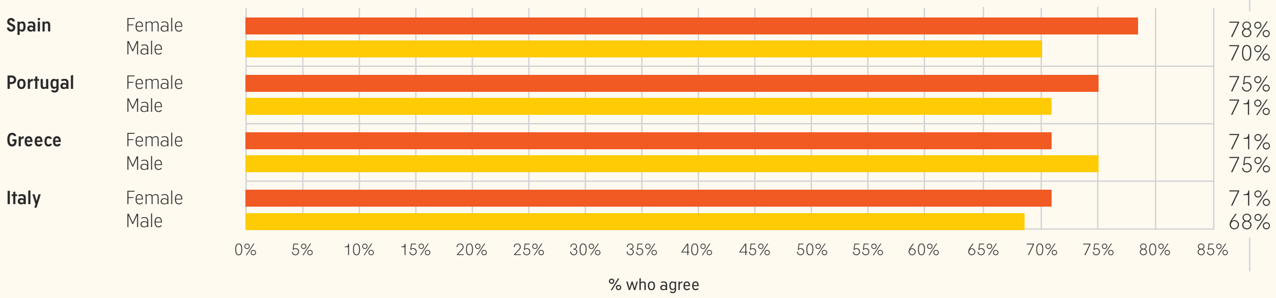


‘I can get in touch with the healthcare professional when I’m in need’

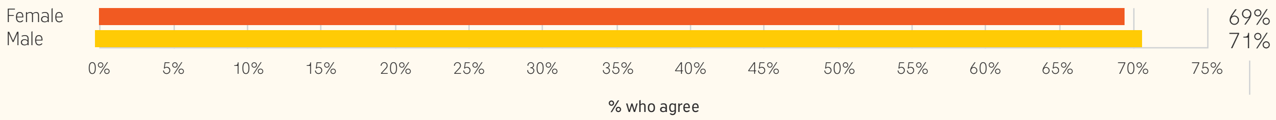
Global n = 5,578



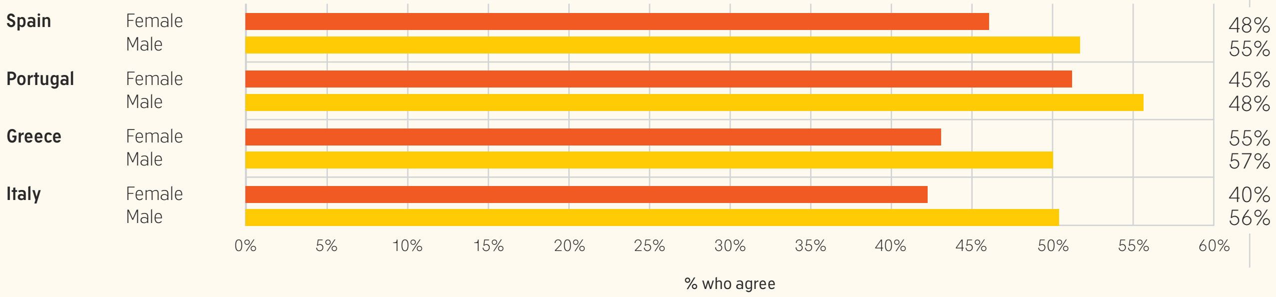
‘I always follow the advice of my healthcare professionals’
Spain n = 412 Portugal n = 356 Greece n = 264 Italy n = 404



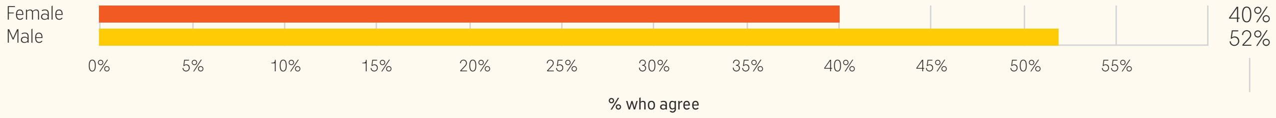
‘I always follow the advice of my healthcare professionals’
Global n = 5,705



‘I’ve been informed about all the different treatment options related to my condition’
Spain n = 392 Portugal n = 336 Greece n = 254 Italy n = 391

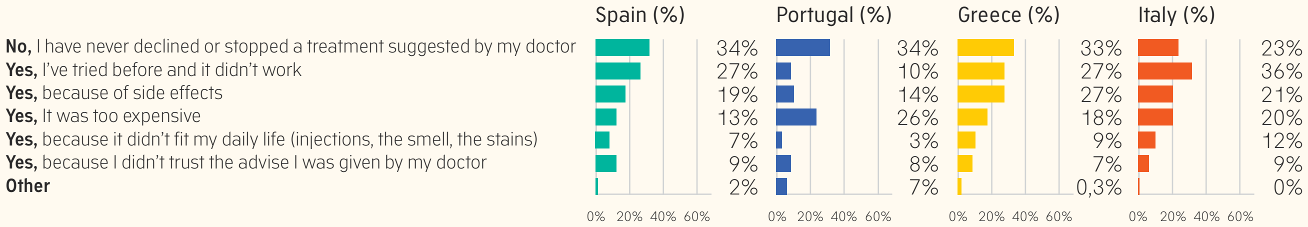


‘I’ve been informed about all the different treatment options related to my condition’
Global n =5,485



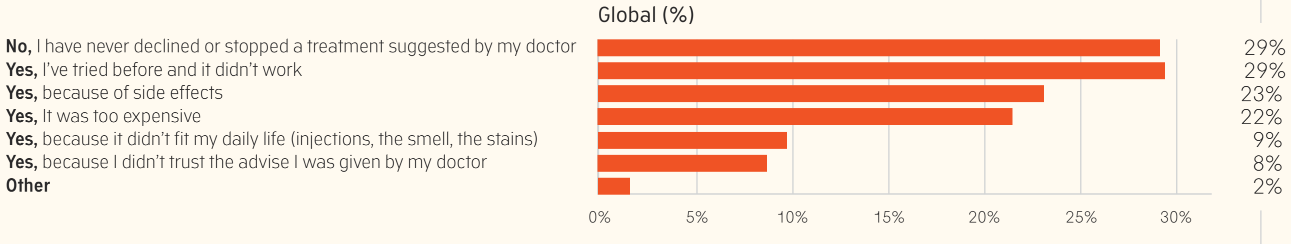
‘Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?’

Spain n = 400 Portugal n = 345 Greece n = 326 Italy n = 386



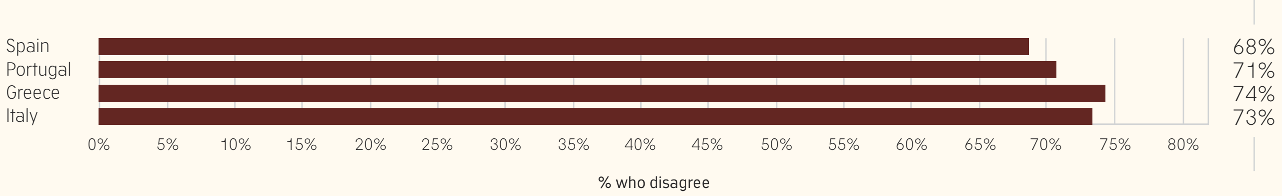
‘Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?’

Global n = 5,500



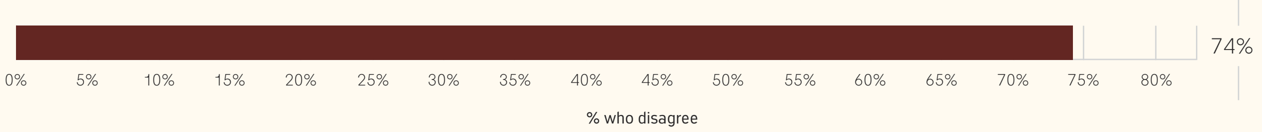
‘There is sufficient public awareness regarding my disease’

Spain n = 396 Portugal n = 337 Greece n = 254 Italy n = 392



‘There is sufficient public awareness regarding my disease’

Global n = 5,457



Northern America and Australia

Northern America and Australia

Selected countries: Canada, the USA and Australia

Northern America and Australia have worrying happiness gaps

Northern America and Australia are subject to concerning happiness gaps, along with the Nordics and Western Europe. In particular, Australia and Canada have high percentages of people with psoriasis living unhappy lives.

In Northern America and Australia, the happiness gaps range from 13% - 14% for mild psoriasis to 27% - 37% for severe psoriasis.

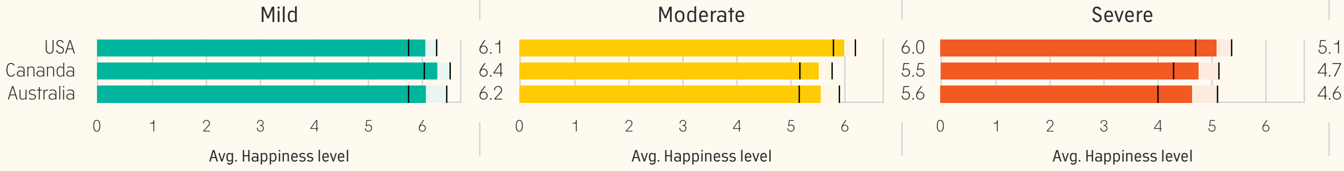
With a happiness gap of 37% for severe psoriasis, Australia emerges as the country with the biggest happiness gap among the countries included in this report.

Sonia, 49, US

> ‘I feel it has only affected my social interactions by making me feel unattractive and, often, a person to avoid because my skin looked “contagious”.’

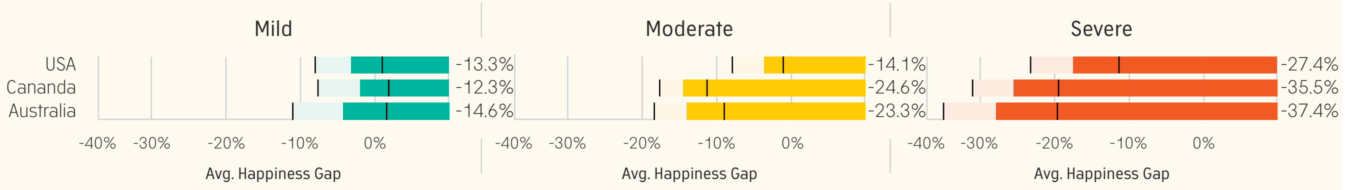
Average happiness levels per severity

US n = 1,185 Canada n = 641 Australia n = 253



Average happiness gap per severity

US n = 1,185 Canada n = 641 Australia n = 253



More than 60% of women often feel stressed and nervous

The United States is the only country in this region where the majority of people living with severe psoriasis do not experience stress (40%). This is compared to 59% in neighbouring Canada.

The way people living with psoriasis experience stress is markedly divided by gender. In the US, 24% of men and 42% of women experience stress.

Additionally, 22% - 30% of men often feel like difficulties are piling up so high that they cannot overcome them, while this is the case for 36% - 40% of women.

40%

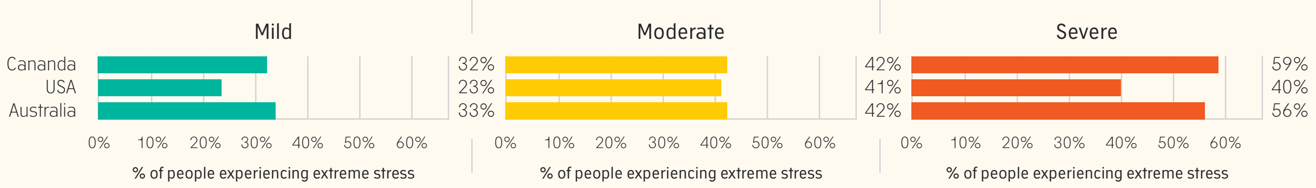
40% of people living with severe psoriasis in the USA experience stress.

59%

59% of people living with severe psoriasis in Canada experience stress.

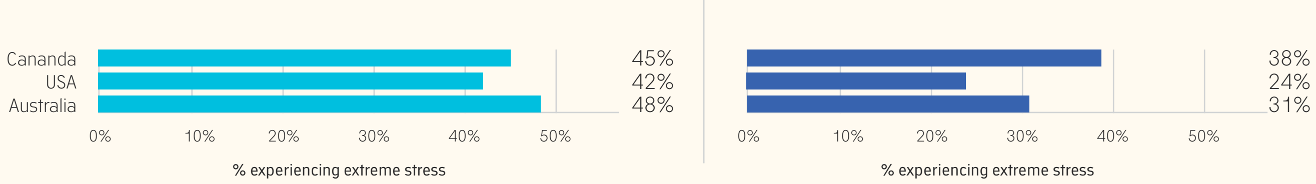
Percentage of people experiencing extreme stress

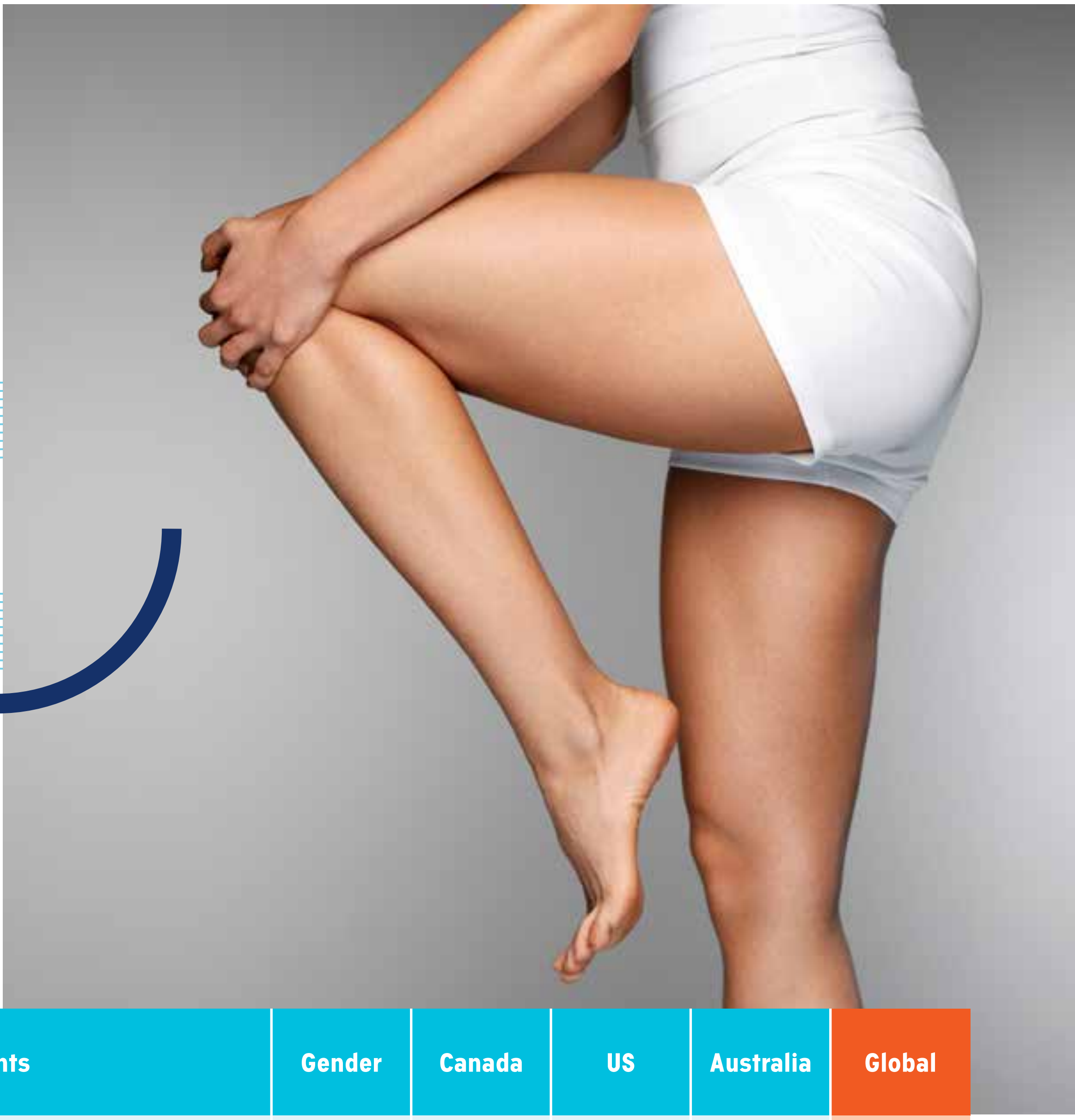
US n = 283 Canada n = 314 Australia n = 151



Percentage of people experiencing extreme stress

US n = 661 Canada n = 733 Australia n = 314



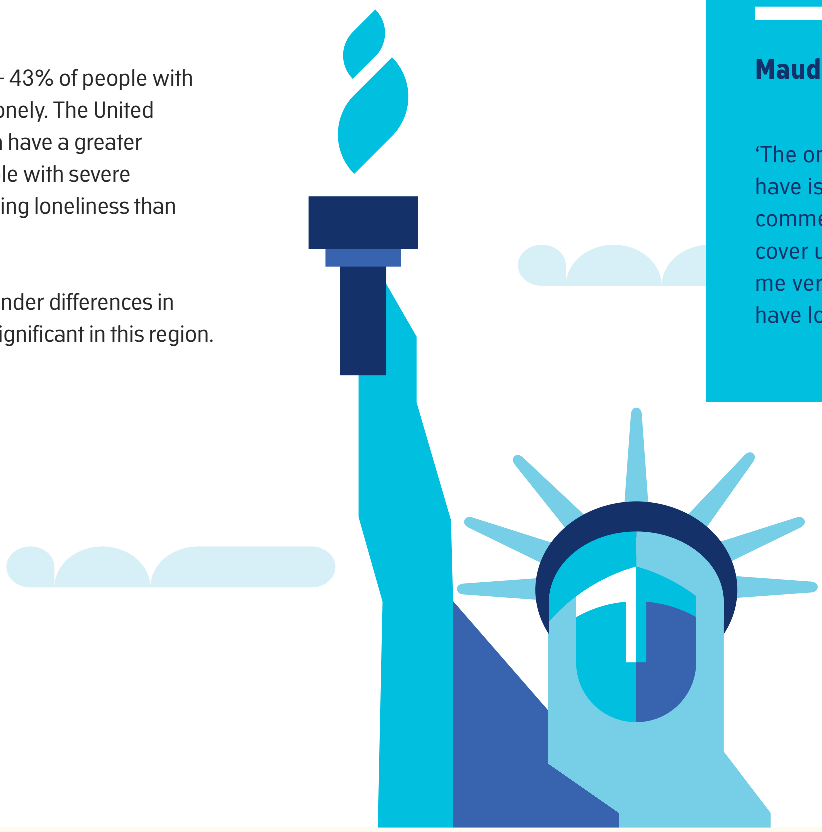


Stress related statements	Gender	Canada	US	Australia	Global
In the last month, how often have you felt nervous and stressed? 'Very often' and 'Fairly often'	Female	63% n = 443	60% n = 428	66% n = 211	62% n = 6,655
	Male	44% n = 309	36% n = 245	42% n = 119	42% n = 4,648
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 'Very often' and 'Fairly often'	Female	36% n = 432	39% n = 413	40% n = 206	37% n = 6,411
	Male	23% n = 293	25% n = 230	30% n = 113	24% n = 4,422
In the last month, how often have you been angered because of things that were outside your control? 'Very often' and 'Fairly often'	Female	45% n = 434	42% n = 413	43% n = 209	45% n = 6,434
	Male	29% n = 298	36% n = 230	34% n = 114	32 % n = 4,443

The loneliest countries?

In this region, 39% - 43% of people with mild psoriasis are lonely. The United States and Australia have a greater percentage of people with severe psoriasis experiencing loneliness than any other country.

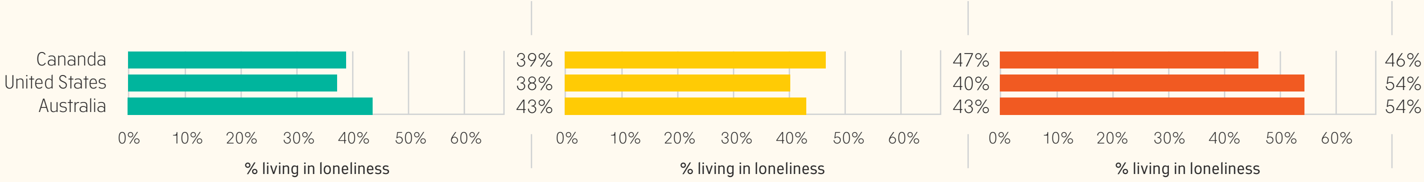
Interestingly, the gender differences in loneliness are not significant in this region.



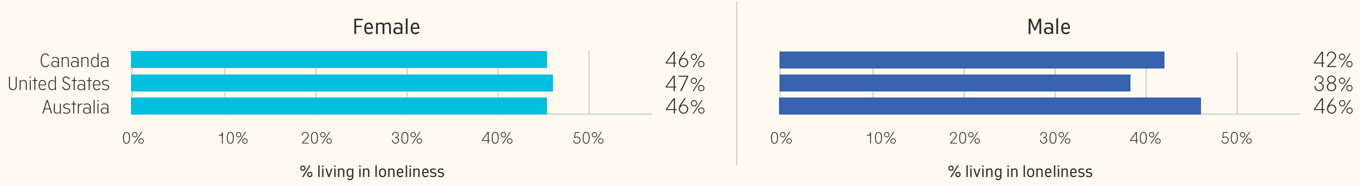
Maude, 36, Canada

> ‘The only support I feel like I truly have is my cat. Everyone else makes comments about how they would cover up if they were me. They make me very self-conscious and I already have low self-esteem issues’

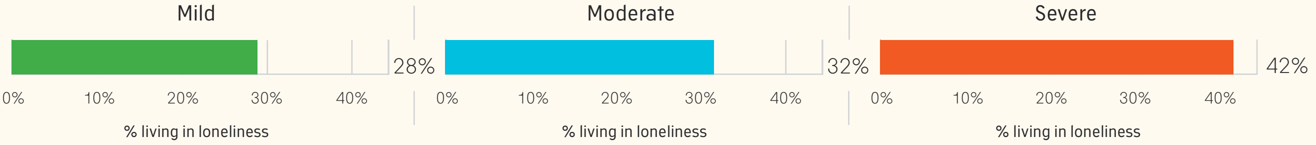
Percentage of people living in loneliness by severity
US n = 287 Canada n = 301 Australia n = 149



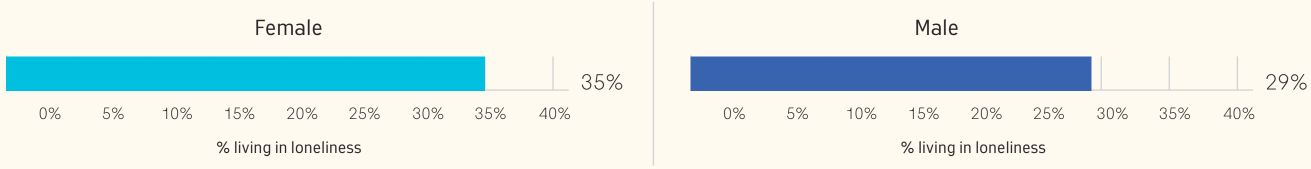
Percentage of people living in loneliness by gender
US n = 295, Canada n = 320 Australia n = 156



Global loneliness by severity
n = 5,171



Global loneliness by gender
n = 5,399

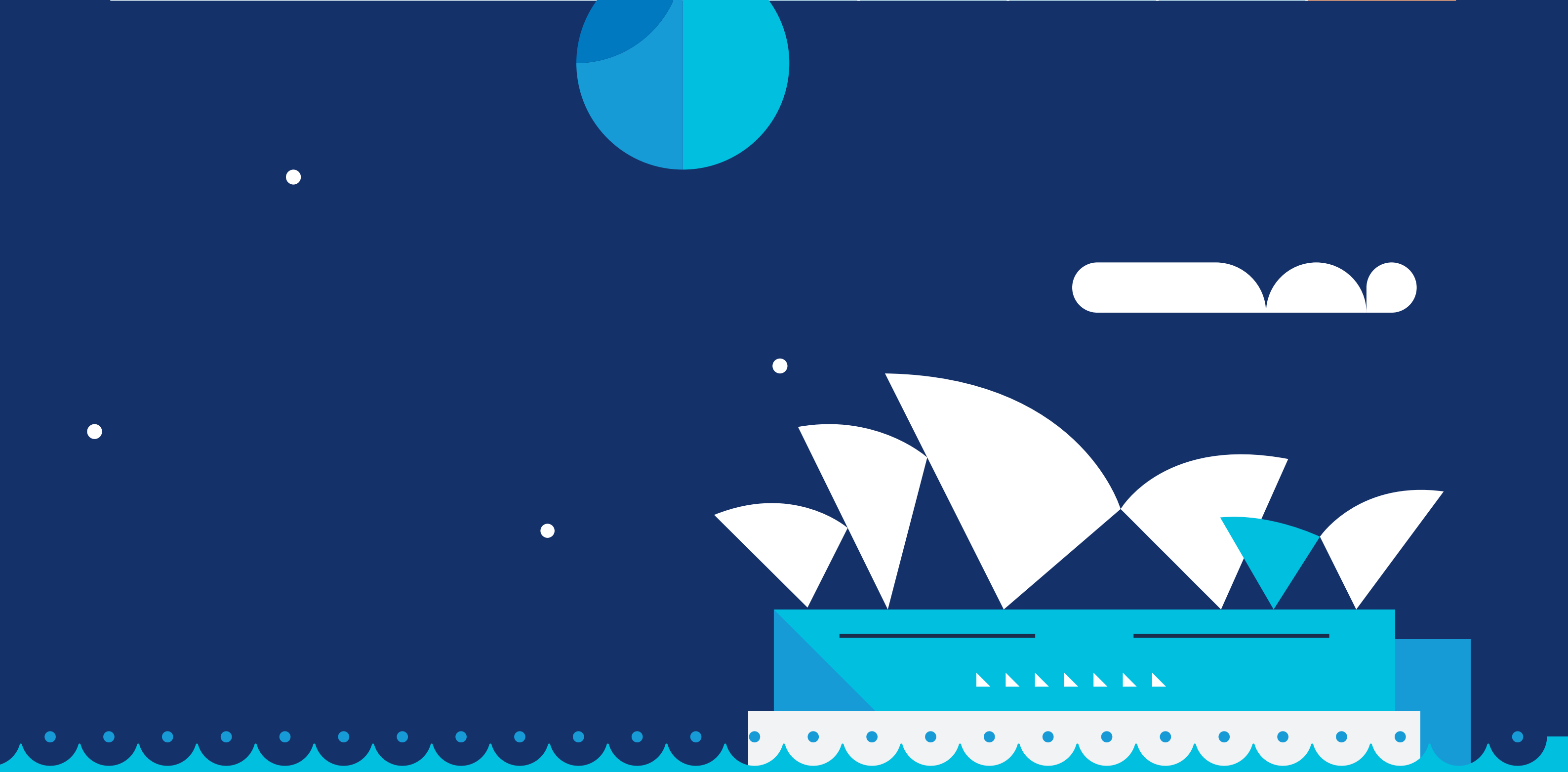


Loneliness related statements	Gender	Canada	US	Australia	Global
How often do you feel that you lack companionship? 'Always'	Female	37% n = 227	36% n = 205	31% n = 118	28% n = 3,375
	Male	44% n = 88	31% n = 85	26% n = 38	24% n = 1,991
How often do you feel left out? 'Always'	Female	34% n = 225	35% n = 204	34% n = 119	25% n = 3,361
	Male	26% n = 87	22% n = 82	29% n = 38	19% n = 1,955
How often do you feel isolated from others? 'Always'	Female	32% n = 225	36% n = 202	38% n = 119	26% n = 3,371
	Male	33% n = 87	27% n = 85	35% n = 37	21% n = 1,955

Up to 70% of Australians feel useless at times

Low self-esteem seems to be a common issue for many people living with psoriasis in Australia, where 70% of both men and women report feeling useless at times. In Canada, 38% of women and 27% of men are inclined to feel like failures. In the US, 42% of women and 49% of men do not feel they have much to be proud of.

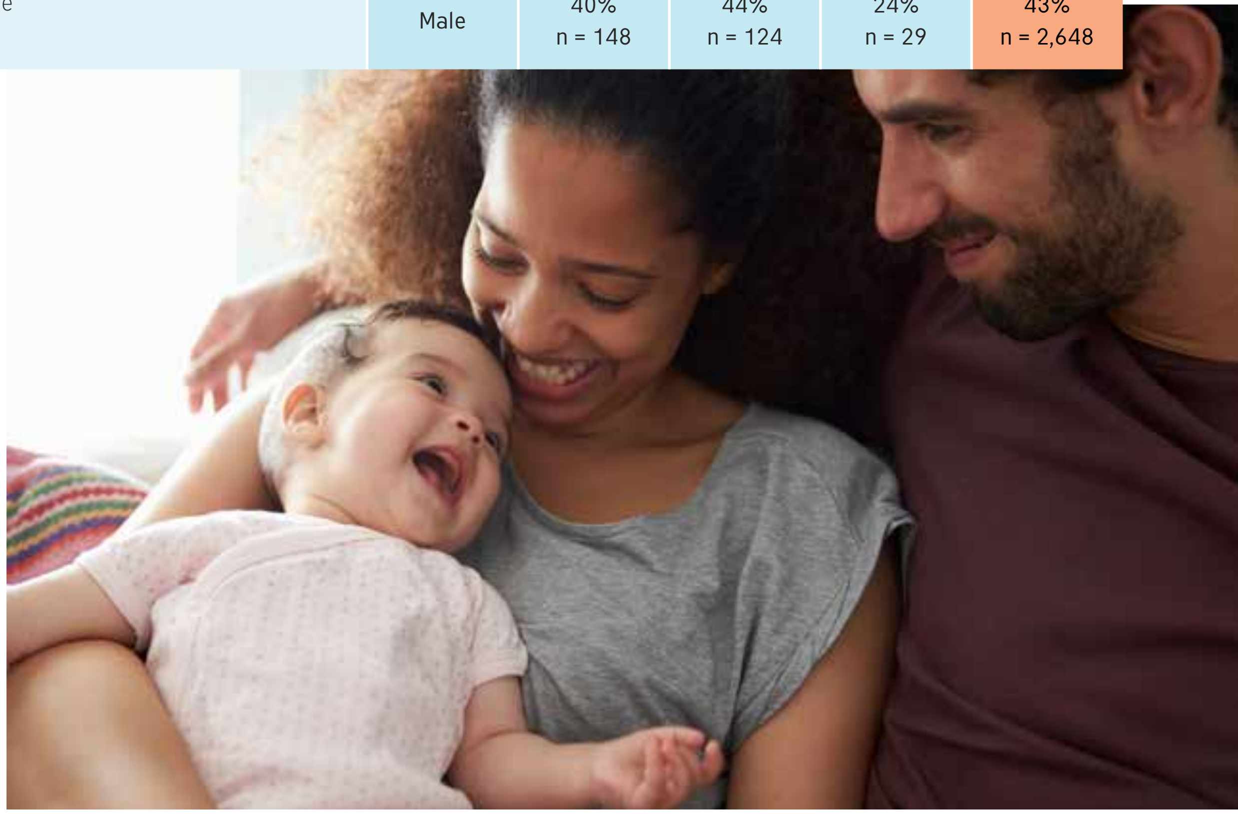
Confidence related statements	Gender	Canada	US	Australia	Global
I certainly feel useless at times. 'Agree'/'Strongly agree'	Female	62% n = 195	63% n = 253	71% (n = 62	51% n = 4,432
	Male	45% n = 139	53% n = 129	70% n = 37	42% n = 3,567
I feel I do not have much to be proud of. 'Agree'/'Strongly agree'	Female	33% n = 194	42% n = 256	33% n = 63	42% n = 4,461
	Male	38% n = 142	49% n = 131	55% n = 38	45% n = 3,622
All in all, I am inclined to feel that I am a failure. 'Agree'/'Strongly agree'	Female	38% n = 191	33% n = 251	35% n = 63	34% n = 4,318
	Male	27% n = 137	34% n = 121	47% n = 36	33% n = 3,443



Up to 55% find understanding in their families

In Northern America and Australia, only half of the populations feel their closest family understand what it is like for them to deal with psoriasis. The percentages are even lower as far as friends are concerned. For instance, only 31% of Australian women feel their friends understand what it is like for them to deal with psoriasis.

Social support related statements	Gender	Canada	US	Australia	Global
My closest friends understand what it is like for me to deal with psoriasis 'Agree'/'Strongly agree'	Female	39% n = 208	40% n = 284	31% n = 62	42% n = 3,715
	Male	40% n = 153	40% n = 131	34% n = 29	43% n = 2,718
My closest family understand what it is like for me to deal with psoriasis 'Agree'/'Strongly agree'	Female	48% n = 211	52% n = 289	55% n = 64	50% n = 3,820
	Male	52% n = 156	51% n = 134	45% n = 31	54% n = 2,799
I know somebody who also has psoriasis and we share thoughts and experiences 'Agree'/'Strongly agree'	Female	39% n = 202	41% n = 280	34% n = 63	39% n = 3,651
	Male	40% n = 148	44% n = 124	24% n = 29	43% n = 2,648



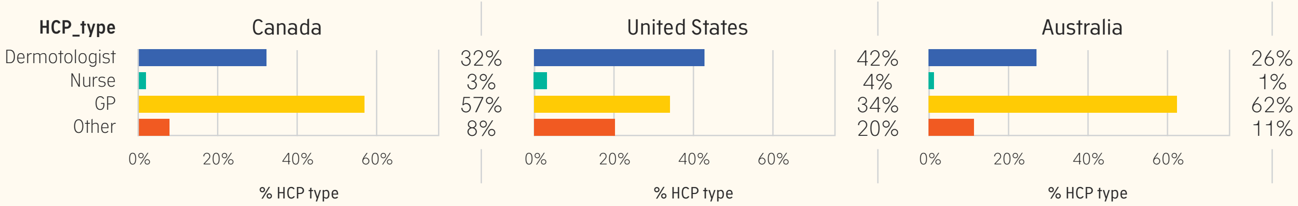
Ava, 69, Canada

> ‘As I’m asking her a question about my psoriasis, she is opening the door to get to her next patient. You are allowed two minutes of her time per visit, which gives you no time to ask anything about what is going on.’

Women call for more understanding

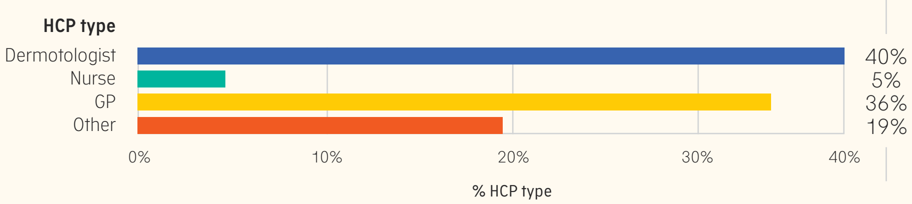
‘Who is your primary healthcare professional in relation to your psoriasis?’

Canada n = 315 US n = 344 Australia n = 163



‘Who is your primary healthcare professional in relation to your psoriasis?’

Global n = 6,150

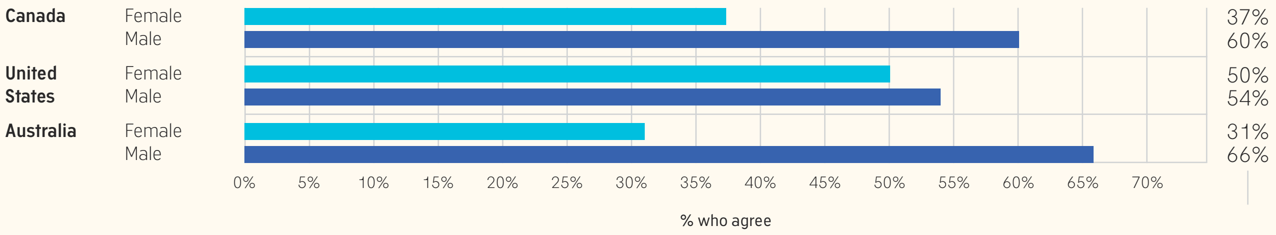


Women in this region lack adequate acknowledgement of their disease, according to the data.

In Australia, only 31% of women agree that their healthcare professional fully understands the impact psoriasis has on their mental well-being. For men, the number is 66%. A similar gender distribution is evident in the other countries in this region. When asked if they feel informed about all the different treatment options, 37% - 57% of women agree while 57% - 73% of men agree.

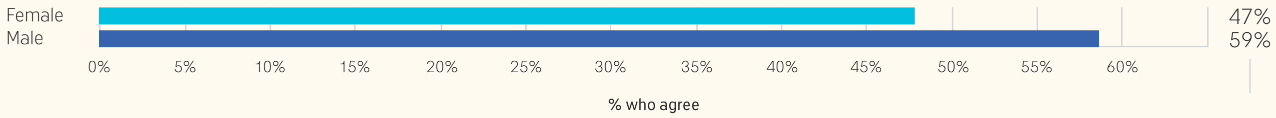
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’

Canada n = 315 US n = 321 Australia n = 159



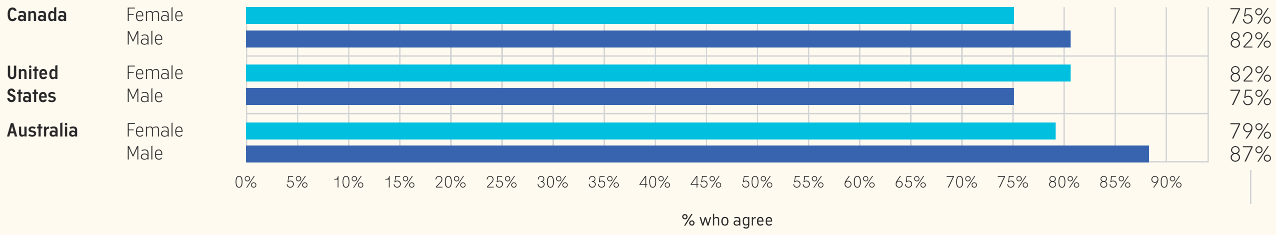
‘My healthcare professionals fully understand the impact psoriasis has on my mental well-being’

Global n = 5,716



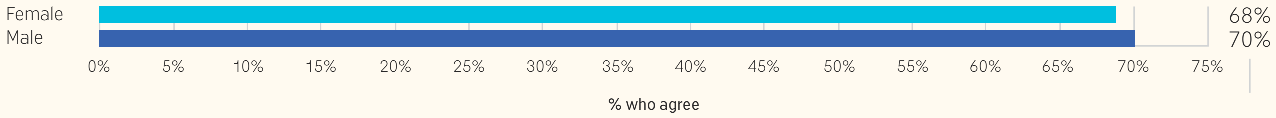
‘I can get in touch with the healthcare professional when I’m in need’

Canada n = 312 US n = 311 Australia n = 155



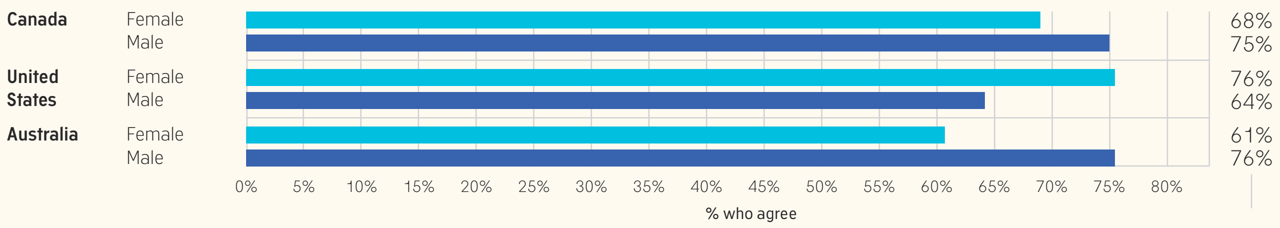
‘I can get in touch with the healthcare professional when I’m in need’

Global n = 5,578



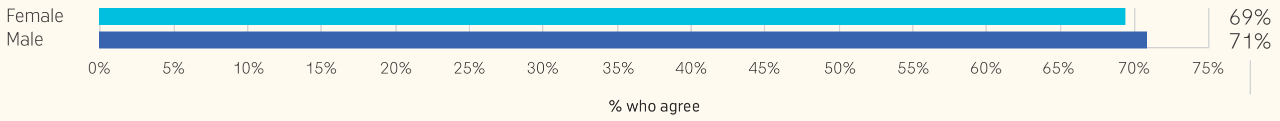
‘I always follow the advice of my healthcare professionals’

Canada n = 314 US n = 314 Australia n = 158



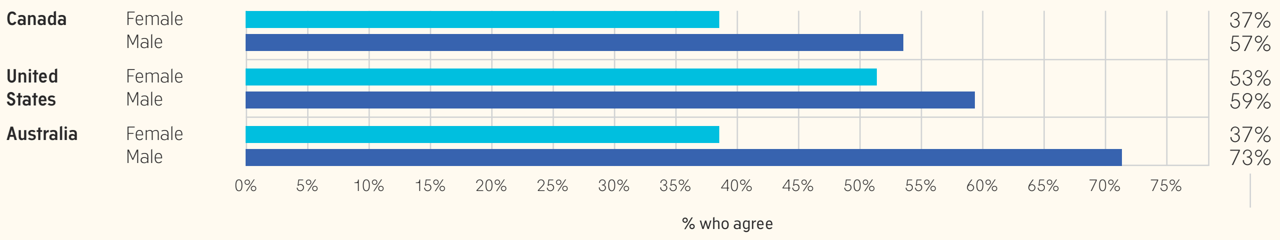
‘I always follow the advice of my healthcare professionals’

Global n = 5,705



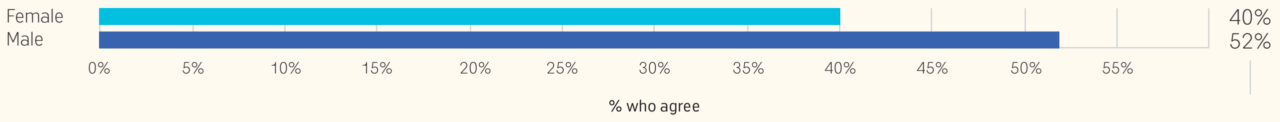
‘I’ve been informed about all the different treatment options related to my condition’

Canada n = 312 US n = 300 Australia n = 154



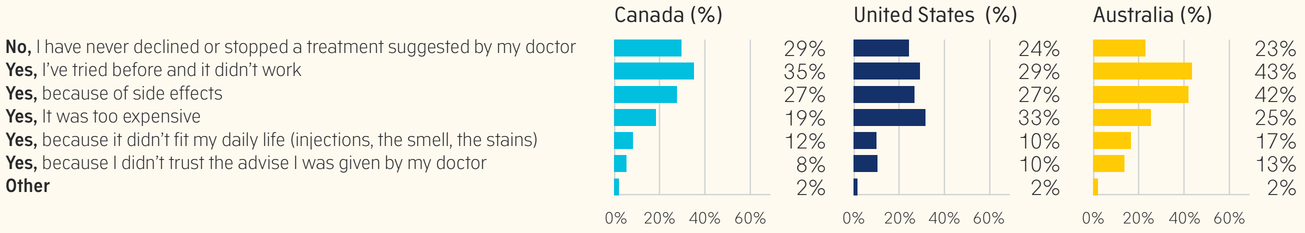
‘I’ve been informed about all the different treatment options related to my condition’

Global n = 5,485



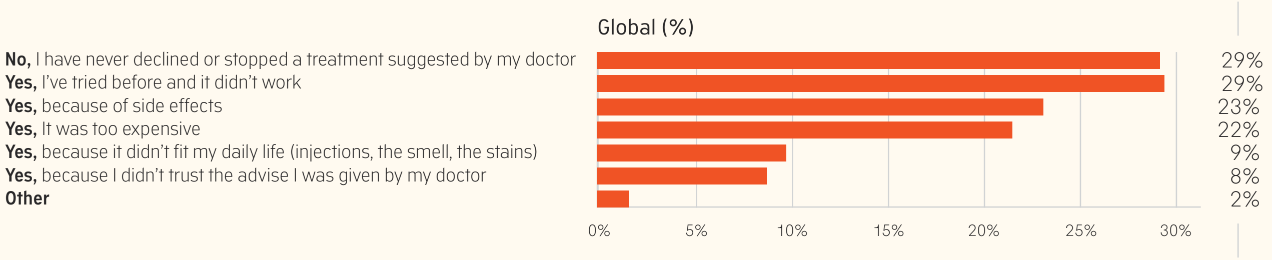
‘Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?’

Canada n = 316 US n = 304 Australia n = 154



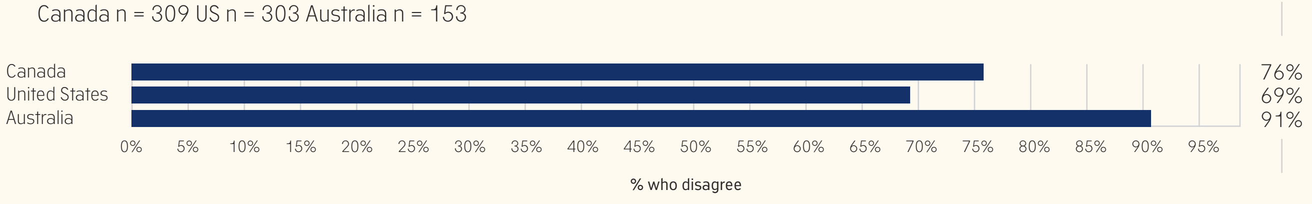
‘Have you ever declined or stopped using a treatment suggested by your doctor for psoriasis?’

Global n = 5,500



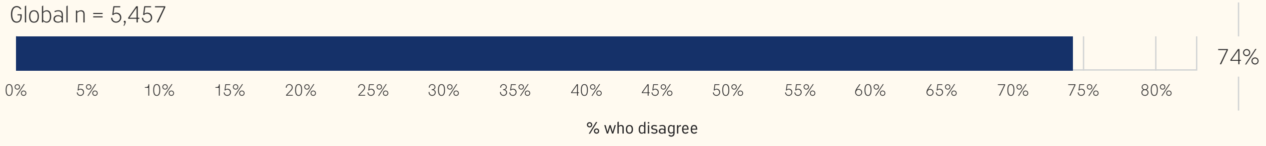
‘There is sufficient public awareness regarding my disease ‘

Canada n = 309 US n = 303 Australia n = 153



‘There is sufficient public awareness regarding my disease’

Global n = 5,457



Concluding Remarks

A continued mission to address well-being inequalities

Too many people living with psoriasis are subject to inequalities in happiness

Subjective well-being is emerging as the new metric for how we, as a society, should measure development. Well-being provides important new perspectives on social progress and inequality so it's becoming a critical issue for leaders in government, business and civil society. We believe that policy-makers should focus their efforts where well-being is scarce so they can bridge the gaps in quality of life. On this basis, we believe one area that deserves particular consideration is health.

The psoriasis happiness gaps

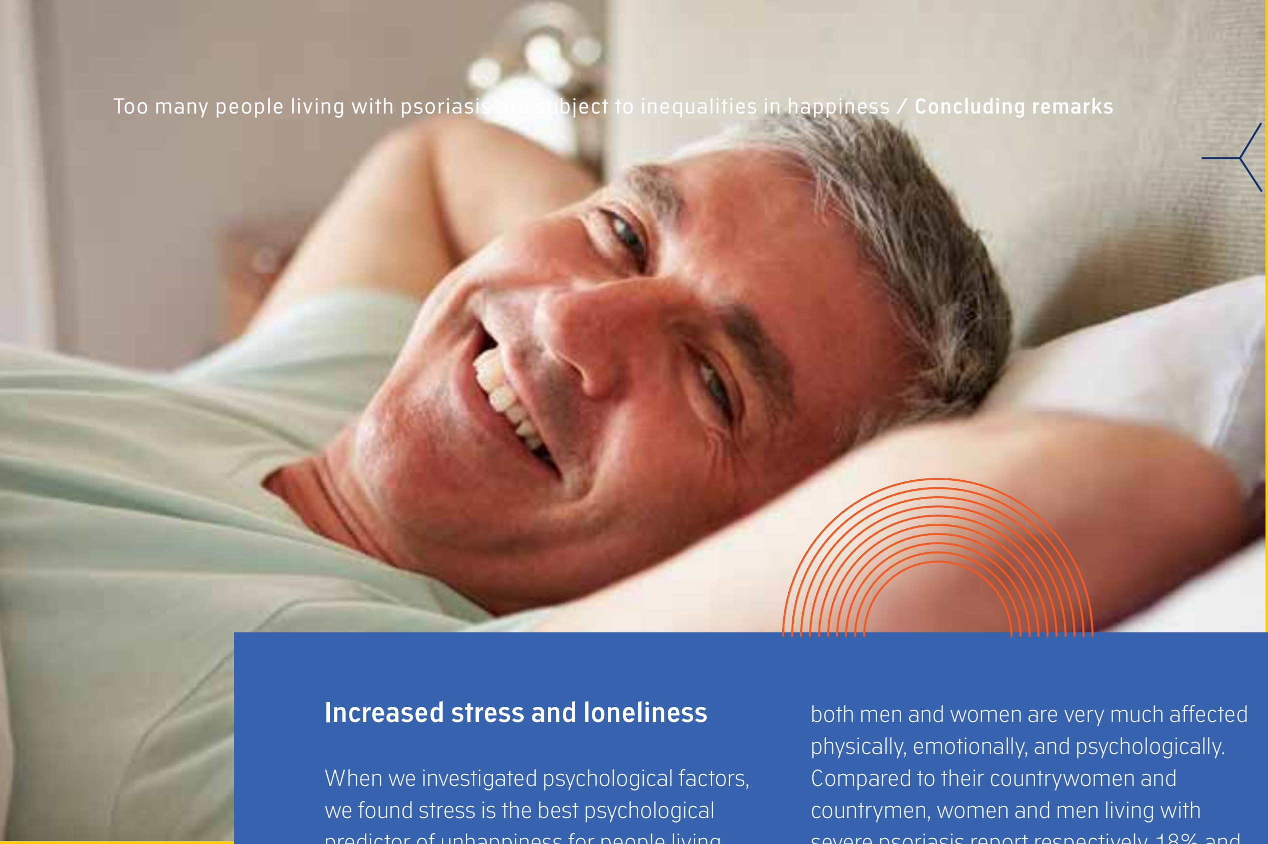
Our research aims to build a picture of the subjective well-being of people living with psoriasis.

Our surveys revealed that *too* many people living with psoriasis are subject to great inequalities in happiness – regardless of their socioeconomic status and disease severity. So, understanding how we can lift the people who are the unhappiest and most affected by their condition out of their misery becomes a priority.

We identified a major well-being inequality between the general populations and people living with psoriasis. Using the *World Happiness Report 2017* as a benchmark, our study shows that people living with *severe* psoriasis in some countries report 30% lower levels of happiness than their fellow citizens.

However, these happiness gaps vary a lot between countries. Interestingly, the countries with the most worrying inequalities are prosperous countries which are normally considered generally happy - like Australia and Denmark.

This suggests that progress on the social determinants which increases happiness for the general population - such as freedom, wealth, access to healthcare and safety - do not automatically increase happiness for people living with psoriasis.



Increased stress and loneliness

When we investigated psychological factors, we found stress is the best psychological predictor of unhappiness for people living with psoriasis, regardless of demographics, socioeconomic status and severity. We find that people experiencing stress while living with psoriasis are 23% more likely to be in misery (a happiness score of 0-4).

The case for reducing stress levels across all regions is particularly compelling when we analyse what would reduce the number of people living in misery. If we could ensure that no one living with psoriasis experiences extreme stress, we could reduce the number of people living in misery by about 35%.

We find that 33% of people living with psoriasis can be considered as lonely using the most conservative interpretation for loneliness. This reduces their happiness levels and is the second strongest psychological predictor of unhappiness after stress.

Finally, psoriasis seems to have an even greater negative impact on women, although both men and women are very much affected physically, emotionally, and psychologically. Compared to their countrywomen and countrymen, women and men living with severe psoriasis report respectively 18% and 11% lower levels of happiness. Women also consistently report higher levels of stress and loneliness than men.

Possible interventions to close the psoriasis happiness gap

Promoting greater understanding of how psoriasis impacts well-being may take us quite far in bridging these health-related happiness gap. The 48% of respondents who feel their healthcare professionals do not fully understand the impact psoriasis has on their mental well-being experience a happiness gap of 21%.

We will continue to explore potential interventions to bridge the happiness gap. For instance, we are investigating the causes of positive happiness gaps (Portugal and Greece) and similar happiness levels in people with self-perceived psoriasis and the general populations (Mexico, Colombia, Spain etc).

Future plans: Putting well-being on the global healthcare agenda

This report is a product of the first set of insights – but we are already exploring new areas and working towards greater awareness, collaboration and change.

1). We are **continuing to analyse the survey data to deepen our insights** into the specific needs of each gender, the importance of the relationship with the healthcare professionals and how stress is experienced differently by people of different genders, age-groups and countries.

2). As you read this, we have **a new survey available on PsoHappy** exploring the link between comorbidities and quality of life for people living with psoriasis.

3). We are also **investigating health conditions other than psoriasis** so we can explore and understand how health inequalities, in general, cause inequalities in well-being.

4). Simultaneously, we are **bringing together patients, associations, policy-makers and healthcare providers** committed to improving the well-being of people so they can work together. We do so by providing a platform that stakeholders can use to capture levels of well-being, exchange best practices and design interventions for improving the lives of people living with debilitating conditions such as psoriasis.

5). This report is part of our overall ambition to **build a common language on health and happiness which supports collaboration, knowledge-sharing and change.** To pursue this mission, we continue to rigorously measure and assess the performance of countries and healthcare systems on their ability to promote well-being and bridge the potential happiness gaps caused by inequalities in health.

Ultimately, we aim to **help healthcare systems and healthcare professionals to develop more patient-oriented practices and governments to develop better public policy.** We believe providing a shared platform and tools will enable better understanding and prioritization of actionable agendas which advance well-being.

Appendix:

Methodological considerations

Considerations

Sample Size:

The findings are based on a sample of at least 384 people living with psoriasis per survey – that is a robust sample[113] to analyze the happiness inequality gap that people living with psoriasis experience, regardless of where they live.

Frequency and survey design

In PsoHappy we collect data continuously through campaigns of 4-5 sets of questions. One would find this problematic in the sense that we do not get a timewise consistent account of the respondents subjective well-being. Our consideration about this design is the trade-off between survey goals and the burden placed upon the respondents, and it is our view that a single survey would cause a smaller and potentially unrepresentative sample size. Also, collecting data over time makes it possible to test for the timing of the collection, which has proven to be of big importance (For example, measures of positive affect are higher on weekends and holidays than on weekdays)[114].

Despite these considerations one could still argue that the timewise consistency would impose a challenge in terms of reliability. In other words, if we compare aggregate subjective well-being scores collected at different moments, we could assume that these indicators are not comparable due to events taking place in the time between, affecting the overall subjective well-being. However, aggregate measures of subjective well-being generally tend to change only slowly over time: *'For example, the experience of unemployment—which is associated with a change in life satisfaction of between 0.7 and 1 on a 0 to 10 scale for the person experiencing it— typically affects between 3% and 10% of the adult population. Thus, even a large shift in the unemployment rate — say, an increase of five percentage points — will translate only into a small change in measures of average subjective well-being via its direct impact on the unemployed'* [115].

Survey mode and mode effects

PsoHappy data is collected via Self-Administered Questionnaires (SAQs), which are traditionally conducted in a pen-and-paper format but increasingly involve Internet-based surveys. As the SAQs are provided through an app, both coverage errors (where we fail to reach certain segments) and non-response bias (due to preferences for certain modes among respondents) must be taken into consideration. Furthermore, it is also important to consider when we compare our data to data collected by different modes.

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113 A representative sample requires a size of 384 units (5% margin of error and a 95% confidence level)

113 *SS = (Z-score)² * p*(1-p) / (margin of error)²*

$SS = (1.96)^2 * 0.5*(1-0.5) / (0.05)^2$

$SS = 3.8416 * 0,25 / 0.0025$

$SS = 384.16$

Source: Cochran, W. G. 1963. Sampling Techniques, 2nd Ed., New York: John Wiley and Sons, Inc

114 OECD (2013), *OECD Guidelines on Measuring Subjective Well-being*, OECD

115 Helliwell, J., Layard, R., & Sachs, J. (2013). *World Happiness Report 2015*. New York: Sustainable Development Solutions Network.

Survey mode and mode effects:

PsoHappy data is collected by Self-Administered Questionnaires (SAQs), traditionally conducted in a pen-and-paper format, but which increasingly involve Internet-based surveys. As the SAQs are provided through an app we must consider both coverage errors (where we fail to reach some certain segments) and non-response bias (due to preferences for certain modes among respondents). Furthermore, survey also becomes important to consider when we compare our data to data collected by different modes.

Coverage error

Due to the fact that our surveys are provided through an app, responding depends on cultural and economic factors such as having access to a smart phone and at to some extent being informed and engaged with your psoriasis condition. It is our assumption issues will occur with samples in countries where segments of society don't fulfill these cultural and economic conditions.

Further, the Psohappy survey is translated into 12 languages, making it possible to reach groups within societies where people are not proficient in English. For some countries a language coverage error will of course come into play due to the lack of translations. In those cases our data become subject to issues of representation assuming that the respondents often represent more culturally privileged groups due to their language proficiencies.

Non-response bias

Another mode effect to consider is non-response bias. Whether a person living with psoriasis can answer a surveys on a smartphone is not only depending on the above mentioned cultural and economic factors, but also on preferences. Due to this consideration it is our assumption that older generation in some countries are less likely to answer our survey.

Benchmarking

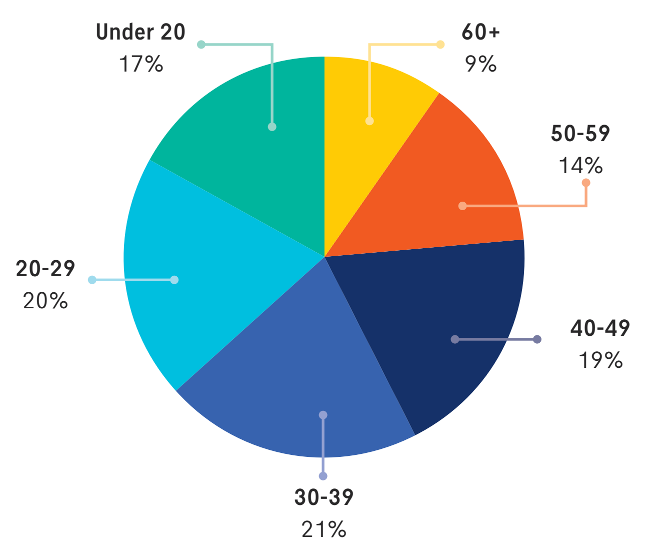
When we compare our findings from PsoHappy to for example the results of The World Happiness Report social desirability becomes of great importance. When mode effects are observed on socially sensitive survey items, they are sometimes attributed to social desirability effects. The underlying assumption is that a lack of anonymity, and/or a lack of perceived confidentiality, particularly in interview settings, may cause respondents to report higher levels of socially desirable attributes, including higher subjective well-being[116]. Although several studies have also disproven this effect[117], we acknowledge that some proportion of the happiness gaps we identify in PsoHappy could potentially be attributed mode effects. However, this potential mode effect does not account for the variation of gaps between countries, severity and gender.

Distributions: Age, gender and socioeconomic status:

Age

The age groups 20-29, 30-39 and 40-49 are the most represented age groups in the study, creating a skewness toward younger people. The youngest group (under 20) only represent 4 different values (15, 16, 17 and 18) which would explain its relative low representation, whereas the reason for a lack of older respondents would be assumed to be caused by a collection method bias.

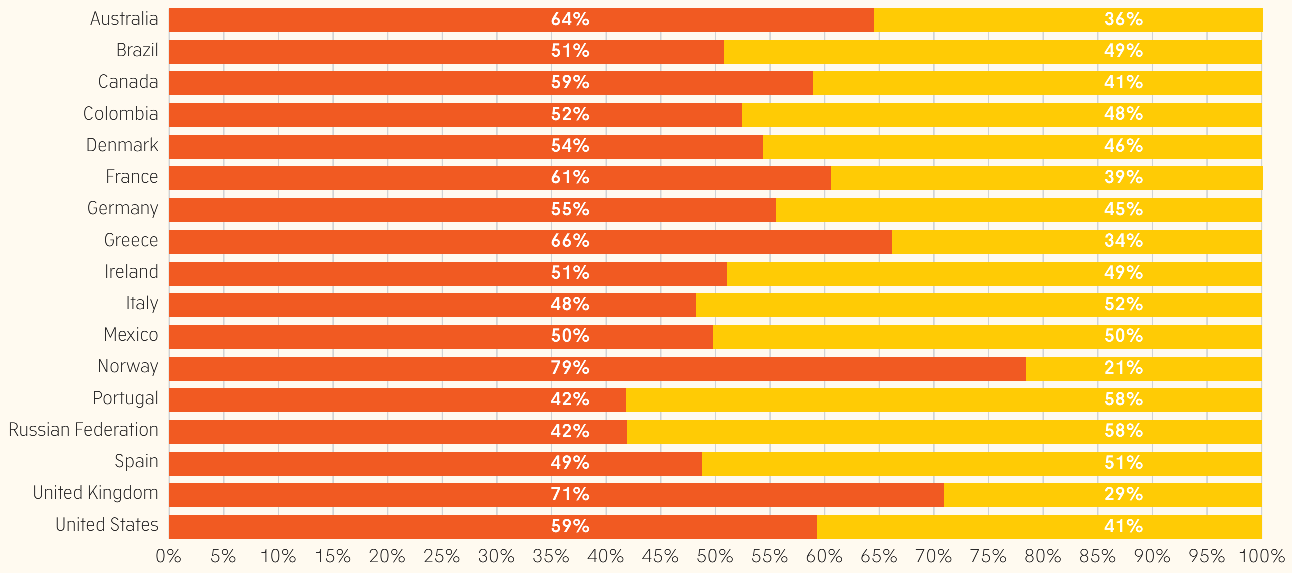
Interestingly we don't identify great variation in terms of subjective well-being across the age groups. Also, among the countries which are subject to analysis, we do not identify variations of concern.



Gender

We have a significant underrepresentation of males in our study, but the gender distribution also varies a lot between countries. At the same time we identify a gender happiness gap where women tend to report lower levels of subjective well-being than men. Considering these insights (the male/female-ratio and variation in happiness levels) any skewness toward more female responses within a country sample would result in lower general happiness levels. Due to this issue we have constructed post-stratification weights to acquire an equal gender distribution across all countries.

Gender distribution

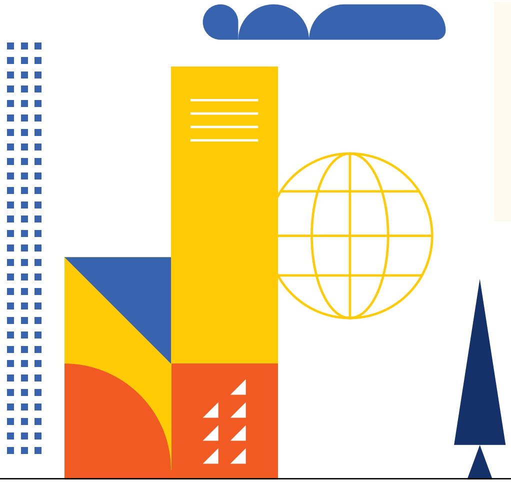


Gender

- 🟡 Male
- 🟠 Female

Socioeconomic status

Due to our potential mode effects (coverage error and nonresponse bias) we must consider the representation of groups with low socioeconomic status particularly in countries with higher degrees of inequality. Our data proves that we have accomplished collecting this type of data in countries as Brazil, Colombia and Mexico, but also, that we haven't in countries such as the Philippines and South Africa - this is why we have excluded them from any kind of comparative analysis.



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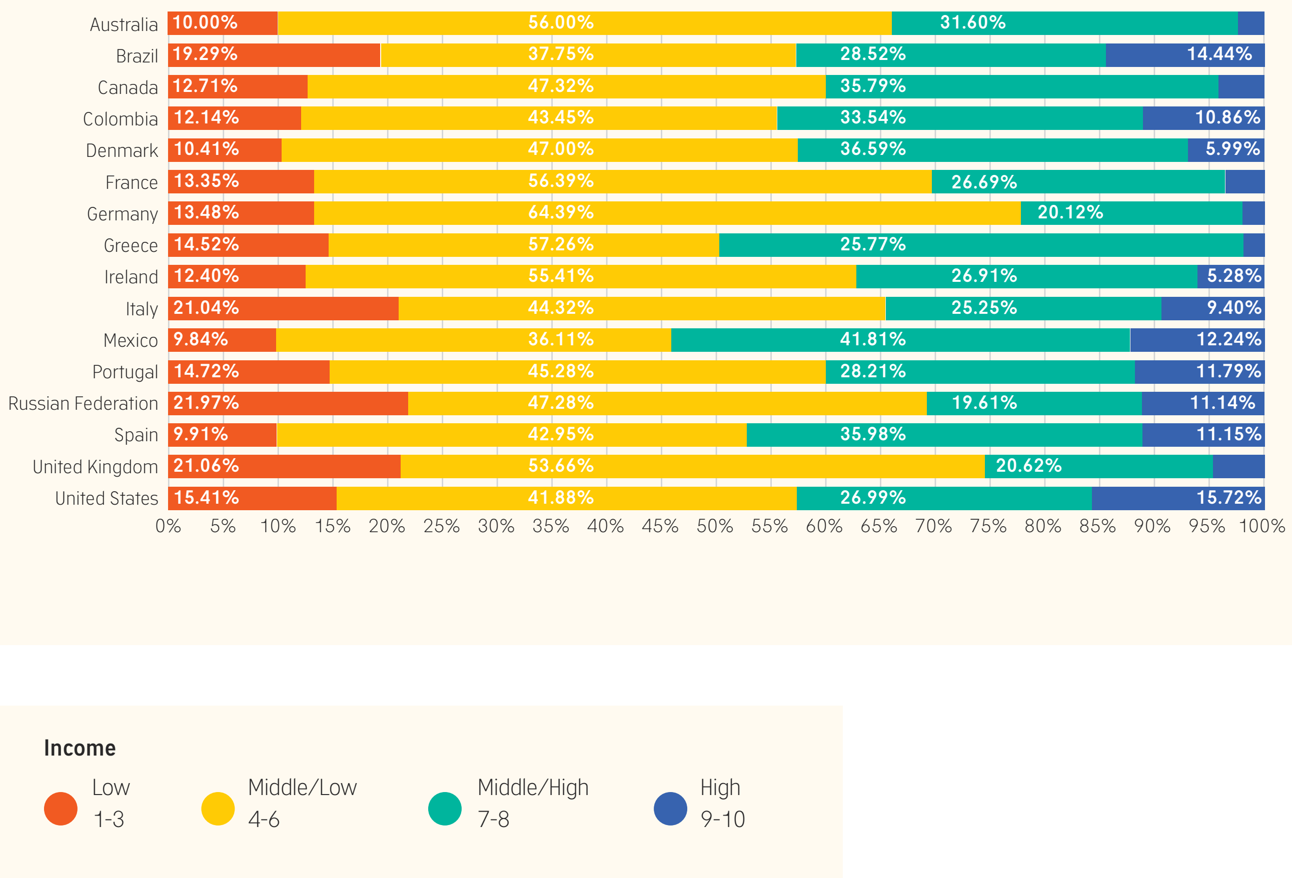
116 OECD (2013) *Guidelines on measuring subjective well-being.*

117 Ibid.

Distribution of perceived socioeconomic status



Filtering and exclusions

In our country analysis we choose to exclude all countries which 1) lack sample size or 2) become subject to serious representation issues caused by mode effects.
A range of countries are excluded due to the first condition. In relation to our second condition countries as South Africa, India and Philippines (which fulfil the first condition), either lacks representation of respondents of older age, of lower socioeconomic status or of people who do not speak one of the offered languages.

Additionally we have added a global filter on the data, which excludes all respondents below the age of 15.

Tables, methodology details and references

Table A:
Explaining the Variation of Life Evaluation and of Affect
(Partial correlation coefficients)

	Life Evaluation	Positive Affect	Negative Affect
Stress	-0.226	-0.283	0.537
Loneliness	-0.083	-0.104	0.186
Socioeconomic status	0.418	0.092	0.008*
Severity	-0.115	-0.02*	0.055

*** P-value. > 0.05**

Table B:
Explaining the Variation of Life Evaluation by support from family, friends and significant other
(Partial correlation coefficients)

	Partial correlation coefficient	Significance (p-value)
Familiy	0.148	0
Significant other	-0.007	0.668
Friend	0.087	0

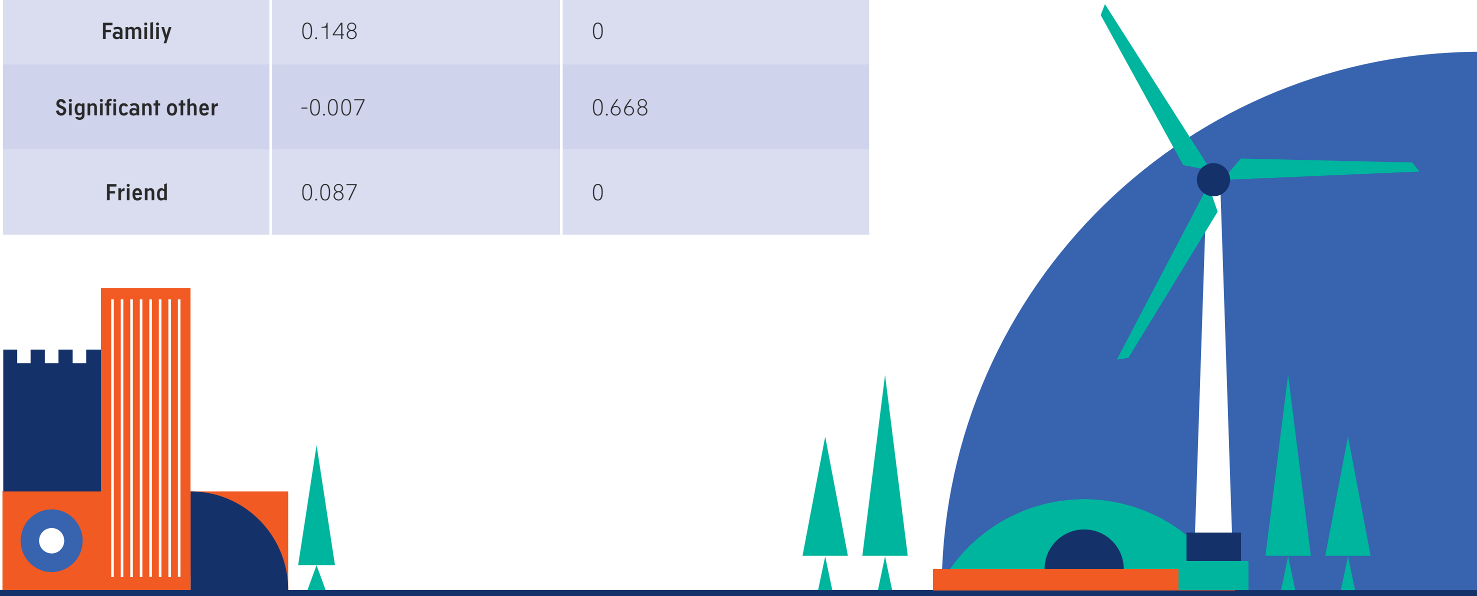


Table C:
Explaining the Variation of Life Evaluation by support from family, friends and significant other - by regions
(Partial correlation coefficients)

Latin America

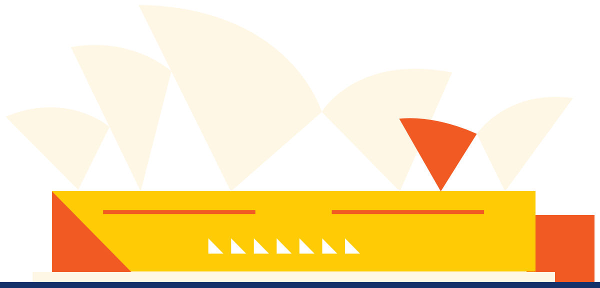
	Partial correlation coefficient	Significance (p-value)
Familiy	0.114	0.002
Significant other	0.032	0.384
Friend	0.036	0.262

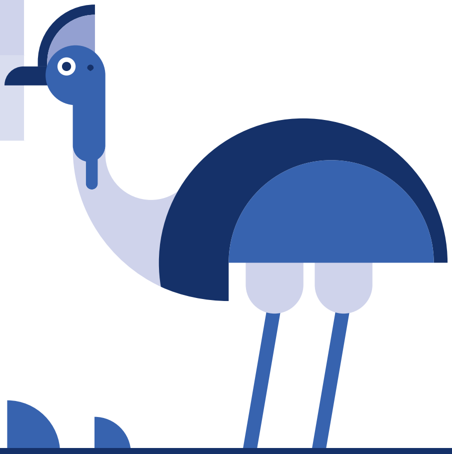
The Nordics

	Partial correlation coefficient	Significance (p-value)
Familiy	0.107	0.388
Significant other	0.01	0.947
Friend	0.049	0.701

Northern America and Australia

	Partial correlation coefficient	Significance (p-value)
Familiy	0.166	0.001
Significant other	0.034	0.533
Friend	0.145	0.005





Russian Federation

	Partial correlation coefficient	Significance (p-value)
Familiy	0.128	0.014
Significant other	-0.077	0.149
Friend	0.143	0.001

Southern Europe

	Partial correlation coefficient	Significance (p-value)
Familiy	0.123	0
Significant other	0.004	0.907
Friend	0.104	0.001

Western Europe

	Partial correlation coefficient	Significance (p-value)
Familiy	0.147	0
Significant other	0.01	0.762
Friend	0.114	0

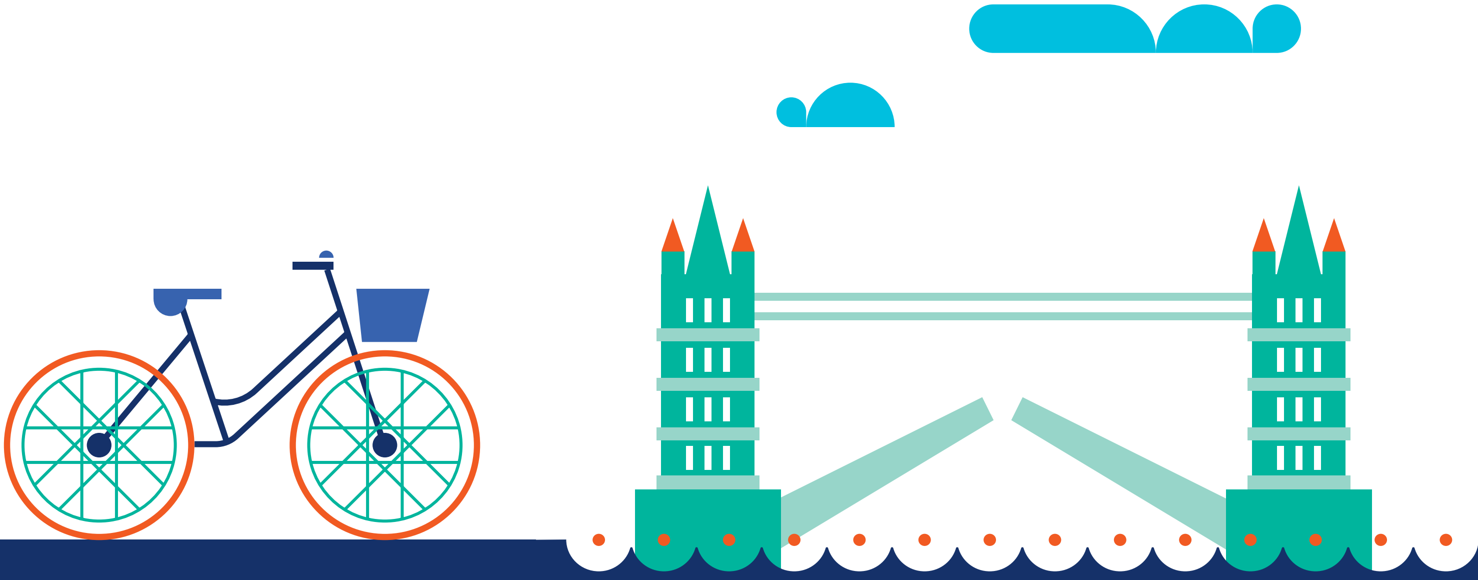


Table D:

Explaining the Variation of Life Evaluation per region
(Partial correlation coefficients)

Latin America

	Partial correlation coefficient	Significance (p-value)
Stress	-0.177	0
Loneliness	-0.085	0.006
Socioeconomic status	0.399	0
psoriasis severity	-0.072	0.008

Nordic

	Partial correlation coefficient	Significance (p-value)
Stress	-0.346	0
Loneliness	-0.204	0
Socioeconomic status	0.316	0
psoriasis severity	-0.188	0

North America and Australia

	Partial correlation coefficient	Significance (p-value)
Stress	-0.252	0
Loneliness	-0.1	0.005
Socioeconomic status	0.375	0
psoriasis severity	-0.172	0

Southern Europe

	Partial correlation coefficient	Significance (p-value)
Stress	-0.207	0
Loneliness	-0.077	0.003
Socioeconomic status	0.413	0
psoriasis severity	-0.108	0

Western Europe

	Partial correlation coefficient	Significance (p-value)
Stress	-0.356	0
Loneliness	-0.09	0.004
Socioeconomic status	0.267	0
psoriasis severity	-0.161	0

Table E:

The linear prediction model is based on the following equation:

In misery (1.0) = a1 Is stressed (1.0) + a2 Is lonely (1.0) + a3 have severe psoriasis(1.0) + a4 have a low socioeconomic status (1.0)

The factors are defined as follows:

Extreme Stress

In Chapter 1, we concluded that stress is all-pervading and prevalent factor for people living with psoriasis. We therefore find that neither the US benchmark of 15.21 (on Cohen's Perceived Stress Scale) nor the scale's own threshold of 20 are satisfactory indications. Instead, we adopt a conservative stress threshold: scores above the median score in each region. For Latin America, this encompasses all respondents with a score above 21; in Southern Europe 22; in Northern America and Australia 23 and in Western Europe 24. As these stress-thresholds are much higher than the original threshold of high stress (20) we choose to label this new threshold 'extreme stress'.

Loneliness

There are many examples of ways to establish a minimum score for loneliness based on the Short UCLA. For instance, it's advised a score of at least '4'[118], '6'[119] or '7'[120] to be used. We have picked the third option, which is the most conservative approach. It means that the respondents have to answer 'often' to at least one of the 3 questions and at least 'sometimes' to the other two.

Low socioeconomic status

We define low socioeconomic status as scores of 1 - 4 on the Subjective Socioeconomic Scale which ranges from 1 - 10. In all four regions, a score of '4' is also the 20th percentile.

Severe psoriasis

A reduction in severity is simply defined as the elimination of severe psoriasis.

The predictions are based on the following calculations:

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[118] Chalise, H. N., Kai, I., & Saito, T. (2010). *Social support and its correlation with loneliness: A cross-cultural study of Nepalese older adults*. The International Journal of Aging & Human Development, 71, 115-138.

[119] Hand, C., McColl, M. A., Birtwhistle, R., Kotecha, J. A., Batchelor, D., & Barber, K. H. (2014). *Social isolation in older adults who are frequent users of primary care services*. Canadian Family Physician, 60, e322-329.; Shiovitz-Ezra, S. & Ayalon, L. (2012). Use of direct versus indirect approaches to measure loneliness in later Life. Research on Aging, 34, 572-591.

[120] Boehlen, F., Herzog, W., Quinzler, R., Haefeli, W. E., Maatouk, I., Niehoff, D., et al. (2014). *Loneliness in the elderly is associated with the use of psychotropic drugs*. International Journal of Geriatric Psychiatry.

The predictions are based on the following calculations

Table E:

Western Europe: **31.7 %** in misery
n = 808

	Effect	Prevalence	Effect x prevalence
Extreme stress	**0.233**	48.5%	11.3%
loneliness	**0.117**	34.7%	4.1%
Severe psoriasis	**-0.111**	22.4%	2.5%
Low socioeconomic status	**0.180**	23.6%	4.24%

Northern America + Australia: **33.5%** misery
n = 680

	Effect	Prevalence	Effect x prevalence
Extreme stress	**0.163**	50.0%	8.5%
loneliness	**0.101**	44.6%	4.5%
Severe psoriasis	**-0.104**	20.7%	2.2%
Low socioeconomic status	**0.327**	22.8%	7.5%

Southern Europe: **25.3%** in misery
n = 1,143

	Effect	Prevalence	Effect x prevalence
Extreme stress	**0.115**	48.2%	5.3%
loneliness	**0.066**	31.3%	1.9%
Severe psoriasis	**-0.115**	15.8%	1.8%
Low socioeconomic status	**0.371**	17.8%	6.3%

Latin America: **17.2%** in misery
n = 1,024

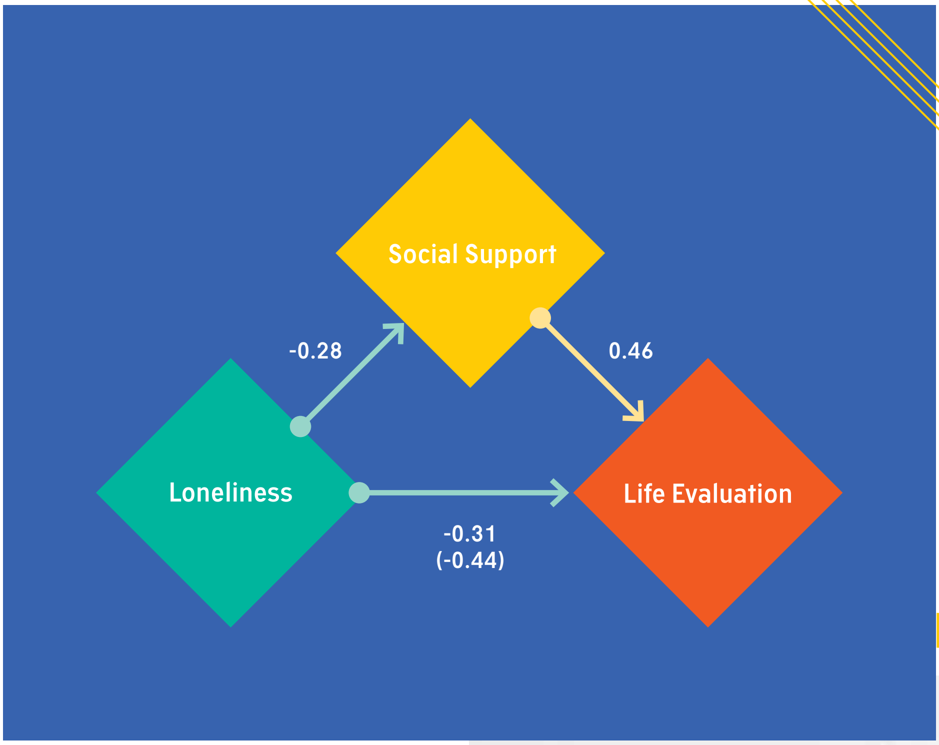
	Effect	Prevalence	Effect x prevalence
Extreme stress	**0.111**	45.7%	5.1%
loneliness	**0.110**	28.9%	3.2%
Severe psoriasis	**-0.091**	15.3%	1.4%
Low socioeconomic status	**0.312**	17.1%	5.4%

Figures:

Figure A:

There is a significant indirect effect of loneliness on life evaluation through social support, ab = -0.13. The mediator could account for roughly 30% the total effect: Pm = 0.29

Analysis conducted through PROCESS macro software addon in SPSS.



Figures:

Figure B:
Country correlation: Average happiness gaps and culture (collectivism/individualism) for mild psoriasis n = 10,925

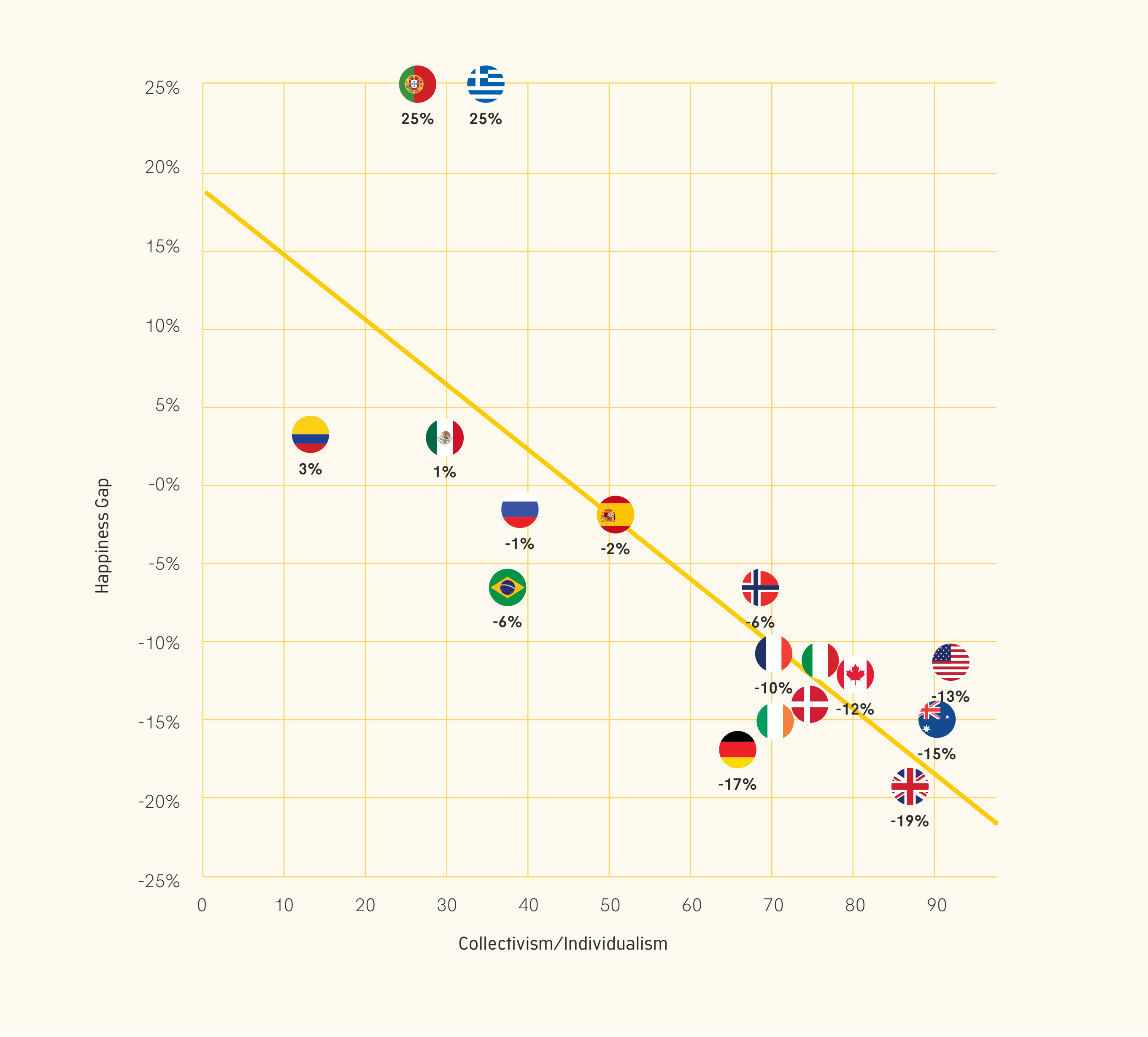
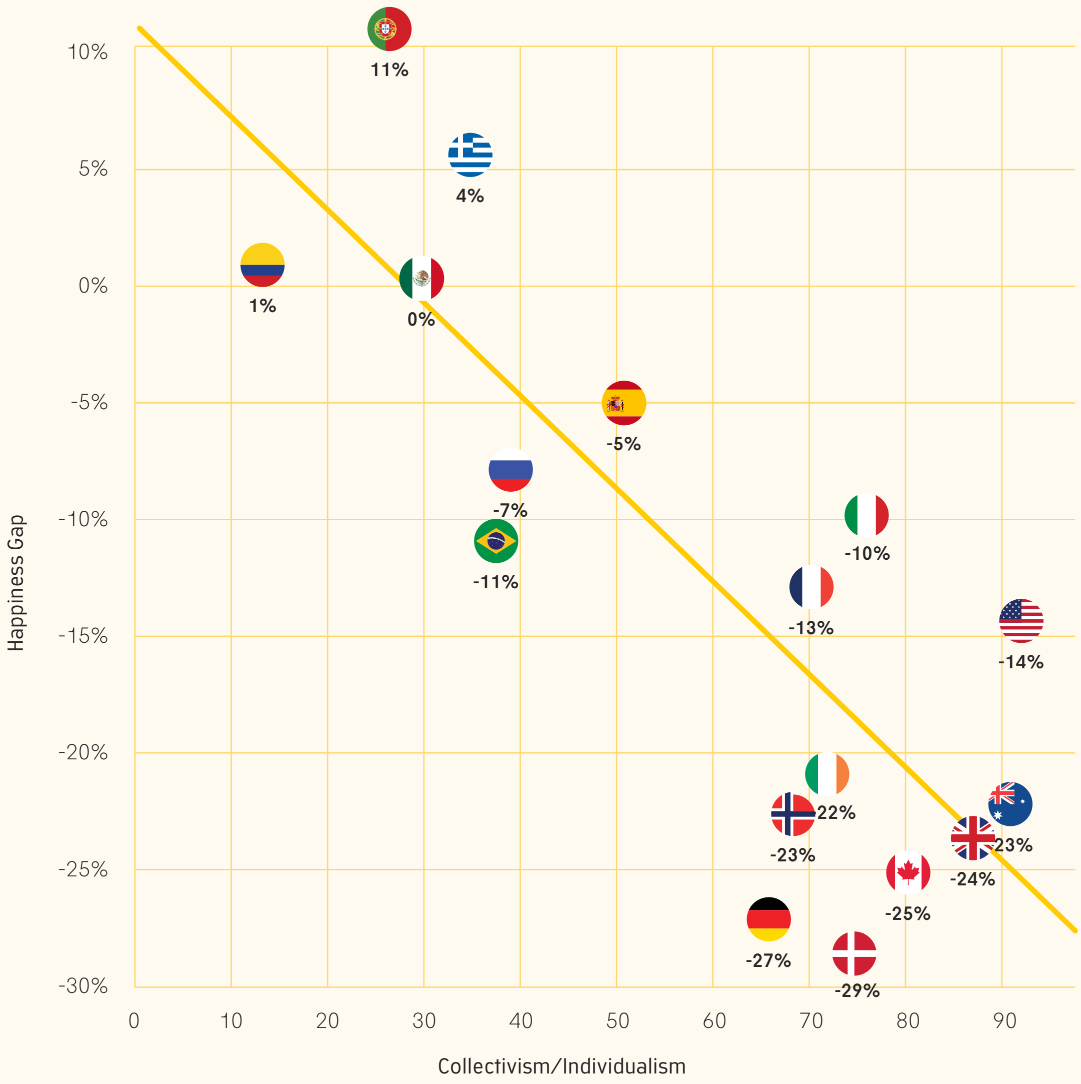


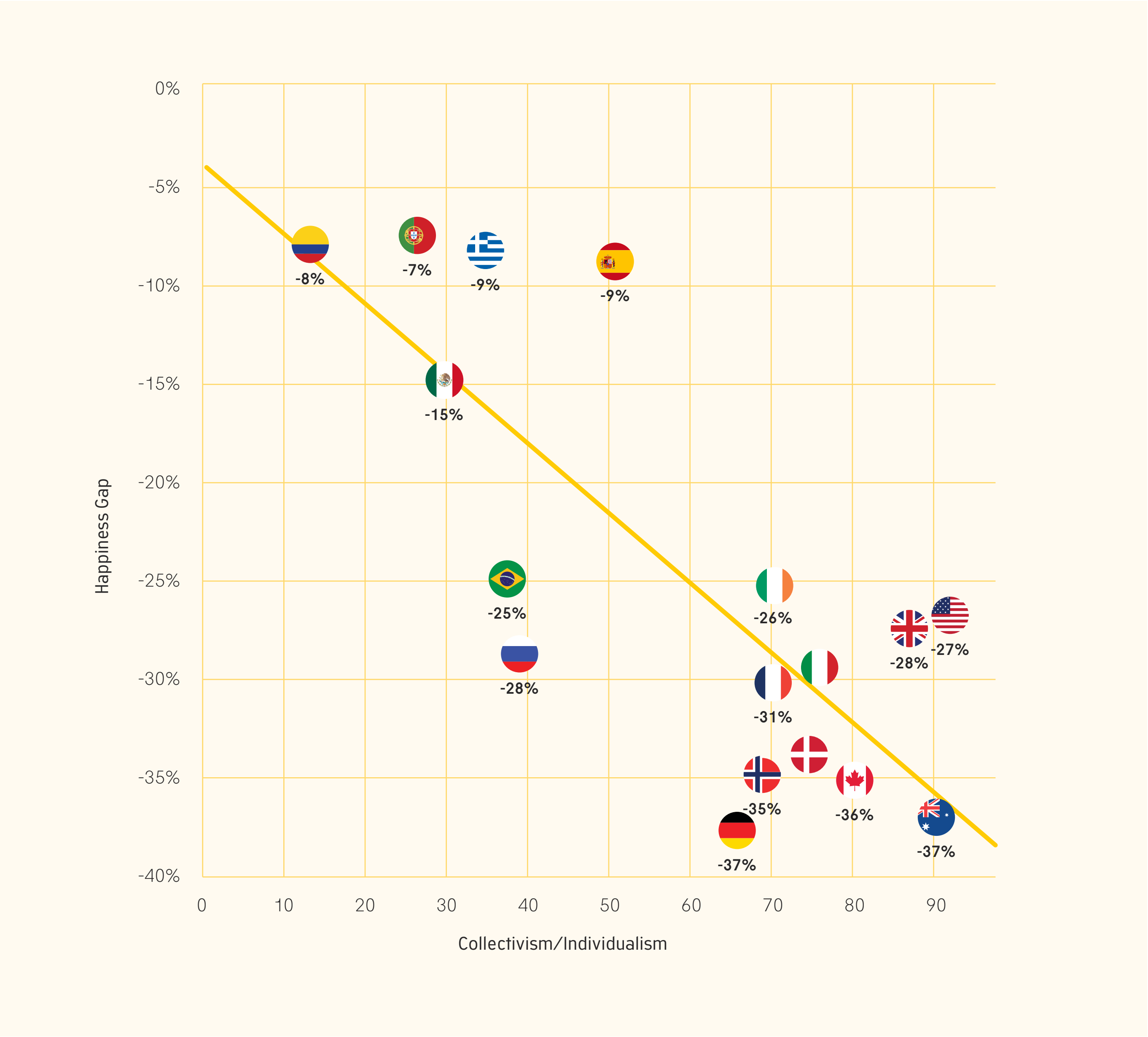
Figure B:

Country correlation: Average happiness gaps and culture (collectivism/individualism) for moderate psoriasis n = 11,515



Figures:

Figure B:
Country correlation: Average happiness gaps and culture (collectivism/individualism) for severe psoriasis
n = 2,498



References

- Adler N, Stewart J. (2007) The MacArthur Scale of Subjective Social Status http://www.macses.ucsf.edu
- Boehlen, F., Herzog, W., Quinzler, R., Haefeli, W. E., Maatouk, I., Niehoff, D., et al. (2014). *Loneliness in the elderly is associated with the use of psychotropic drugs.* International Journal of Geriatric Psychiatry.
- Cantril, H. (1965). *The pattern of human concerns.* New Brunswick, NJ: Rutgers University Press.
- Cohen, S., Doyle, W., & Baum, A. (2006). *Socioeconomic status is associated with stress hormones.* Psychosomatic Medicine, 68, 414–420.
- Cohen, S., Kamarck, T. & Mermelstein, R. (1983). *A global measure of perceived stress.* Journal of Health and Social Behavior, 24, 385-396.
- Cohen, Sheldon & Janicki-Deverts, Denise (2012) *Who's Stressed?* Distributions of Psychological Stress in the United States in Probability Samples from 1983, 2006, and 2009
- Daly, Mary C., Oswald, Andrew J., Wilson, Daniel and Wu, Stephen. (2011) *Dark contrasts: the paradox of high rates of suicide in happy places.* Journal of Economic Behavior & Organization, Vol.80 (No.3). pp. 435-442
- Gallup (2017) *Global Emotion Report*
- Geale K, Henriksson M, Schmitt-Egenolf. Health Qual Life Outcomes (2017) *How is disease severity associated with quality of life in psoriasis patients? Evidence from a longitudinal population-based study in Sweden.* Jul 28;15(1):151. doi: 10.1186/s12955-017-0721-x.
- Hofstede, G - http://geerthofstede.com/
- Hamermesh, D., & Lee, J. (2007). *Stressed out on four continents: Time crunch or yuppie kvetch?* The Review of Economics and Statistics, 89, 374–383.
- Helliwell, J., Layard, R., & Sachs, J. (2017). *World Happiness Report 2017*, New York: Sustainable Development Solutions Network.
- Helliwell, J., Layard, R., & Sachs, J. (2015). *World Happiness Report 2015.* New York: Sustainable Development Solutions Network
- National Psoriasis Foundation/USA https://www.psoriasis.org/about-psoriasis
- Hughes, M. E., Waite, L. J., Hawkley, L. C., & Cacioppo, J. T. (2004). *A short scale for measuring loneliness in large surveys: Results from two population-based studies.* Research on Aging, 26, 655-672.

References

Continued

- Kitchen H, Cordingley L, Young H, Griffiths CE and Bundy C (2015) *Patient-reported outcome measures in psoriasis: the good, the bad and the missing!* British Journal of Dermatology, 2015, 172, pp:1210-1221
- Langley RG, Feldman SR, Nyirady J, van de Kerkhof P, and Papavassilis C: (2015) The 5-point Investigator's Global Assessment (IGA) Scale: *A modified tool for evaluating plaque psoriasis severity in clinical trials,* J Dermatolog Treat, 2015; 26(1): 23–31
- Lebwohl, M.G., Bachelez, H., Barker, J., Girolomoni, G., Kavanaugh, A., Langley, R.G., Paul, C.F., Puig, L., Reich, K., van de Kerkhof, P.C. (2014) *Patient perspectives in the management of psoriasis: results from the population-based Multinational Assessment of Psoriasis and Psoriatic Arthritis Survey.* J Am Acad Dermatol. 2014; 70: 871–881
- Marmot, M. (2005). *Social determinants of health inequalities.* The Lancet, 365(9464), 1099-1104
- OECD (2013), *OECD Guidelines on Measuring Subjective Well-being*, OECD
- Rook, K (1987) *Social Support Versus Companionship: Effects on Life Stress, Loneliness, and Evaluations by Others.* Journal of Personality & Social Psychology. 52(6):1132-1147
- Rosenberg, M. (1989) *Society and the Adolescent Self-Image.* Revised edition. Middletown, CT: Wesleyan University Press.
- Russell, D. W. (1996). *UCLA Loneliness Scale (version 3): Reliability, validity and factor structure.* Journal of Personality Assessment, 66, 20-40.
- The European Social Survey (2014)
- Thomas CL, Finlay AY. (2007) *The 'handprint' approximates to 1% of the total body surface area whereas the 'palm minus the fingers' does not.* Nov;157(5):1080-1. Epub 2007 Sep 13.Paperpile
- UN General Assembly, Resolution 65/309, 2011
- Watson, D., Clark, L. A., & Tellegen, A. (1988). *Development and validation of brief measures of positive and negative affect: The PANAS scales.* Journal of Psychology, 54(6), 1063-1070.
- World Health Organization - http://www.who.int/social_determinants/thecommission/finalreport/key_concepts/en/
- Zimet, G.D., Dahlem, N.W., Zimet, S.G. & Farley, G.K. (1988). *The Multidimensional Scale of Perceived Social Support.* Journal of Personality Assessment, 52, 30-41.

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