

# Mental Health and Psychosocial Burden Among Patients Living With Vitiligo in Europe: Findings From the Global VALIANT Study

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## Introduction

- Vitiligo is a chronic autoimmune disease characterized by the destruction of melanocytes, resulting in pale or white patches of skin<sup>1</sup>
- Vitiligo is associated with significant quality-of-life (QoL) impairment in routine activities, employment, and psychosocial health<sup>2,3</sup>
  - In a population-based prevalence survey of vitiligo in the United States, Europe, and Japan, QoL was more impacted in patients with high extent of disease and lesions on the head<sup>4</sup>
- Anxiety and depression have been reported in up to 67.9% and 62.3% of patients with vitiligo, respectively<sup>5</sup>
  - Meta-analyses have shown that patients with vitiligo are approximately 5 times more likely to have depression and 6 times more likely to have anxiety than healthy individuals<sup>6-8</sup>
- There is a need to better investigate and understand the impact and burden of vitiligo on QoL of patients in Europe from their perspective

## Objective

- The population-based Vitiligo and Life Impact Among International Communities (VALIANT) study sought to understand the impact of vitiligo on the QoL and mental health of adult patients with vitiligo in Europe

## Methods

### Study Design and Patients

- This cross-sectional online survey recruited adult patients (aged ≥18 years) diagnosed with vitiligo by a healthcare professional
- Patients were recruited using a general population sampling approach from a network of potential participants in Africa/Middle East (Egypt, Saudi Arabia, South Africa), Asia (China, India, Japan, Philippines, Thailand), Australia, Brazil, Canada, Europe (France, Germany, Italy, Spain, United Kingdom), and the United States
  - Here we present findings from Europe
- Patients completed a self-administered online screener designed to capture high-level demographics, confirm diagnosed vitiligo, and obtain consent before continuing to the 25-minute survey
- Patient responses in emotional well-being were sought to understand the effect of vitiligo on various behavioral metrics, including daily life and activities, impact on self-esteem, depression, anxiety, and stigmatization
  - QoL was assessed using the Vitiligo Impact Patient scale (VIPs), a validated tool encompassing a number of areas where a patient's life may be impacted because of their vitiligo<sup>9</sup>
  - Symptoms consistent with depression were screened via the validated Patient Health Questionnaire–Depression Screener (PHQ-9)<sup>10</sup>
- The extent of vitiligo was assessed using the validated Self Assessment Vitiligo Extent Score (SA-VES) tool,<sup>11</sup> which uses an array of validated images for the patient to self-select, indicating how many lesions on each location on the body are affected with vitiligo, and estimates the affected body surface area (BSA)

### Statistical Analyses

- Data were analyzed using descriptive statistics, with mean (SD) and median (range) for continuous variables, and percentages for discrete variables
- Statistical comparisons were made between subgroups (eg, countries, fair vs dark skin) using the chi-square test for categorical variables and t test for continuous variables, with significance conferred at the level of  $P<0.05$ ; no corrections were made for multiple testing

## Results

### Patient Demographics and Disease Characteristics

- Of 284,111 participants invited to the survey in Europe, 68,840 clicked on the link, and 1554 reported a vitiligo diagnosis that directed them to the complete survey
  - Of these, 1289 (82.9%) completed the survey, and 1151/1289 (89.3%) were included in the analysis (**Table 1**)
- Among the 1151 included patients from Europe, median (range) age was 38 (18–93) years
  - More than half of the patients (57.3%) were male
  - More patients reported Fitzpatrick skin types I–III (fairer skin types, 64.7%) compared with types IV–VI (darker skin types, 35.3%)

Table 1. Patient Demographics and Disease Characteristics

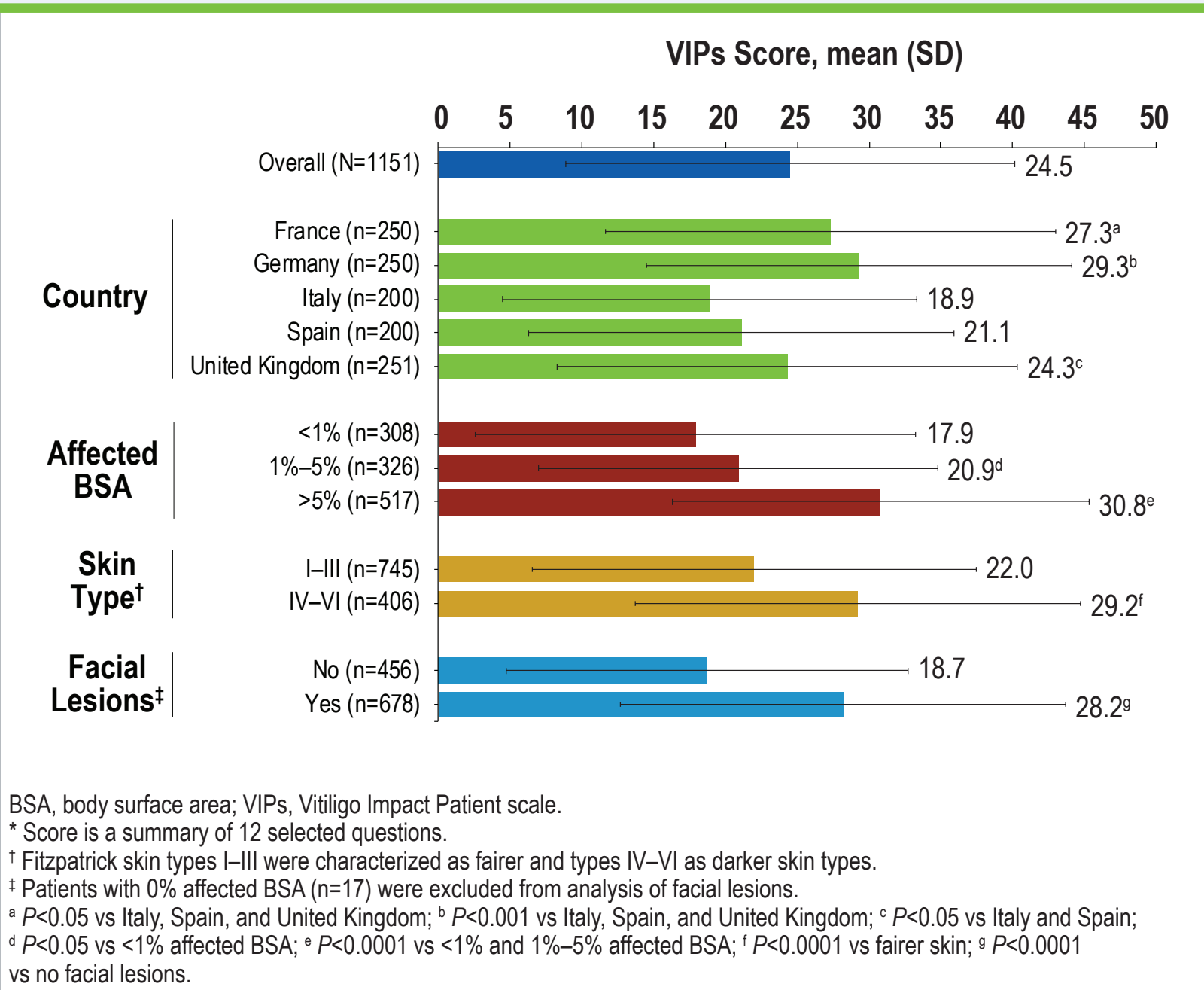
Characteristic	All Participants (N=1151)
Age, median (range), y	38 (18–93)
Male, n (%)	659 (57.3)
Country, n (%)	
France	250 (21.7)
Germany	250 (21.7)
Italy	200 (17.4)
Spain	200 (17.4)
United Kingdom	251 (21.8)
Fitzpatrick skin type,* n (%)	
I–III	745 (64.7)
IV–VI	406 (35.3)
Age at diagnosis, median (range), y	27 (0–74)
Time before diagnosis, mean (SD), y	2.5 (4.0)
Disease duration, mean (SD), y	14.3 (12.9)
Affected BSA, median (range), %	3.8 (0–73.9)
>5% affected BSA, n (%)	517 (44.9)

BSA, body surface area.  
\* Fitzpatrick skin types are defined as follows: type I, pale white skin; type II, white skin; type III, light brown skin; type IV, moderate brown skin; type V, dark brown skin; type VI, deeply pigmented dark brown to black skin.

### Impact of Vitiligo on QoL and Emotional Well-Being

- Across a summary of 12 selected questions, the mean (SD) VIPs score among patients in Europe was 24.5 (15.6; **Figure 1**)
  - Patients in Germany (29.3 [14.8]) and France (27.3 [15.7]) reported significantly ( $P<0.001$ / $P<0.05$ ) higher scores (ie, more burden) than those in Italy (18.9 [14.4]), Spain (21.1 [14.8]), or the United Kingdom (24.3 [16.0])
- Mean (SD) VIPs score was significantly ( $P<0.0001$ ) greater among patients with >5% affected BSA (30.8 [14.5]), darker skin types (29.2 [14.7]), and facial lesions (28.2 [15.5]) vs their counterparts

Figure 1. VIPs Scores\*



BSA, body surface area; VIPs, Vitiligo Impact Patient scale.  
\* Score is a summary of 12 selected questions.  
<sup>1</sup> Fitzpatrick skin types I–III were characterized as fairer and types IV–VI as darker skin types.  
<sup>2</sup> Patients with 0% affected BSA (n=17) were excluded from analysis of facial lesions.  
<sup>3</sup>  $P<0.05$  vs Italy, Spain, and United Kingdom;  $^4 P<0.001$  vs Italy, Spain, and United Kingdom;  $^5 P<0.05$  vs Italy and Spain;  $^6 P<0.05$  vs <1% affected BSA;  $^7 P<0.0001$  vs <1% and 1%–5% affected BSA;  $^8 P<0.0001$  vs fairer skin;  $^9 P<0.0001$  vs no facial lesions.

- In response to 20 questions from the VIPs questionnaire, 38.9% of patients said that managing their vitiligo on a daily basis was burdensome, and 40.7% reported telling themselves that “life would be very different without vitiligo” (**Table 2**)
  - Rates were highest in France (48.0% and 51.2%, respectively) and Germany (48.4% and 46.8%)
- Overall, burden was greater among patients with darker vs fairer skin types ( $P<0.0001$  for all questions)

Table 2. Patient QoL Concerns per the VIPs\*

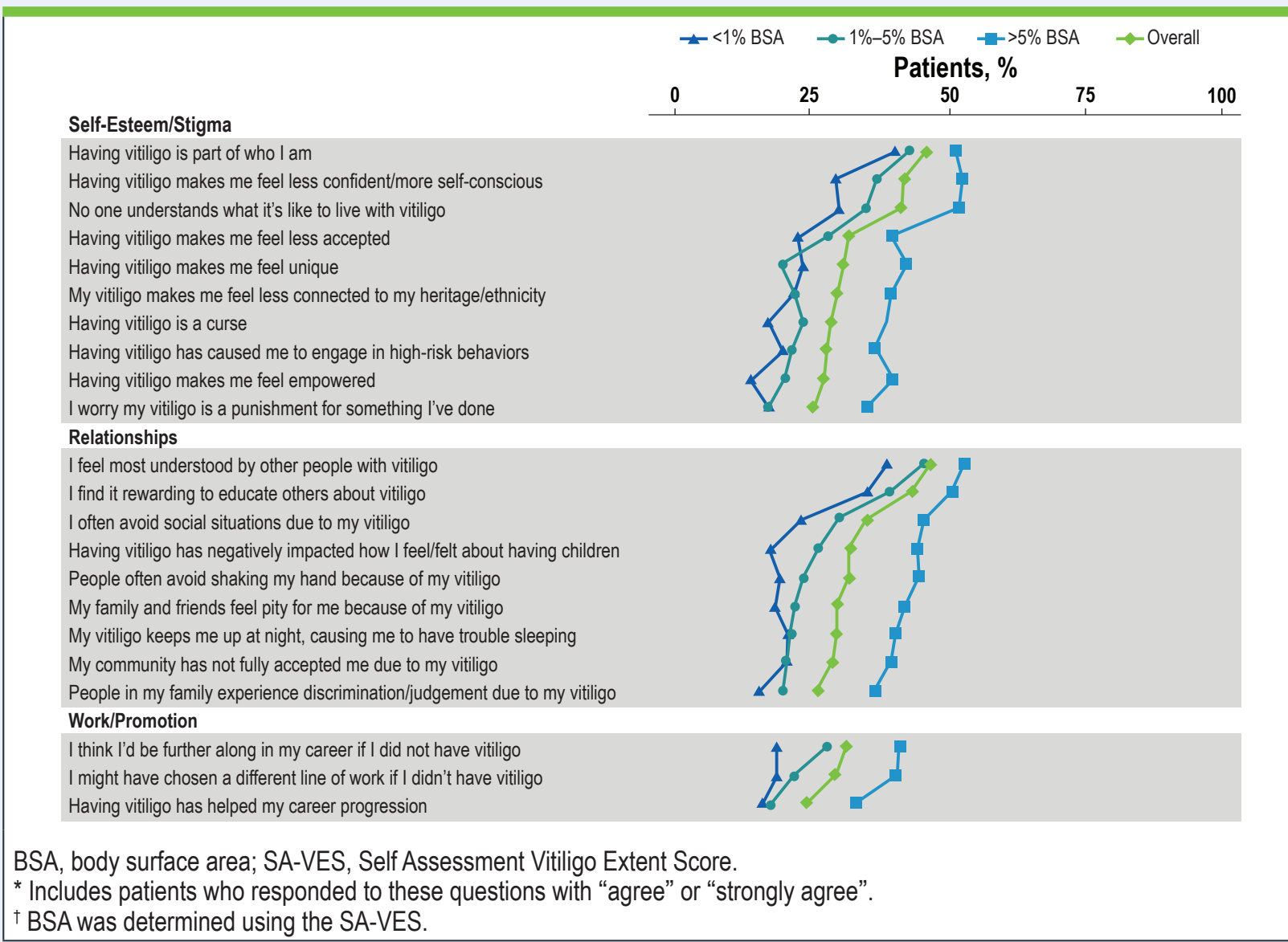
Characteristic, n (%)	Fitzpatrick Skin Type		
	Overall (N=1151)	I–III (n=745)	IV–VI (n=406)
I feel discouraged because of my vitiligo	39.7	34.4	49.5
My vitiligo has repercussions on my physical appearance	45.1	40.9	52.7
The progression of my vitiligo worries me (makes me anxious)	42.8	37.9	52.0
My reflection in the mirror makes me anxious	41.6	35.8	52.2
I dread nice weather because of my vitiligo	41.8	37.6	49.5
Questions about my vitiligo bother me, disturb me	40.2	35.6	48.8
I tend to withdraw into myself because of my vitiligo	37.4	32.1	47.0
I dread first meetings because of my vitiligo	40.7	35.2	50.7
I dip into my savings to treat my vitiligo	37.9	30.1	52.2
I make sacrifices to afford my vitiligo treatments	35.9	28.3	49.8
Managing my vitiligo on a daily basis is a burden	38.9	33.6	48.8
I often tell myself that my life would be very different without vitiligo	40.7	35.8	49.5
I experience my vitiligo as a daily handicap	38.4	32.9	48.5
My vitiligo has a negative impact on my libido (sexual desire)	34.5	27.4	47.5
My vitiligo is an obstacle (a barrier) to my sexuality	36.9	28.5	52.5
In the evening, once I've applied all the creams, I feel depressed	35.4	28.5	48.0
I have had to change my vacations, leisure activities because of my vitiligo	38.7	32.8	49.8
I am ashamed of the consequences of my vitiligo	36.4	29.3	49.5
I feel that medicine has abandoned me	38.1	30.6	51.7
The looks I get from children because of my vitiligo are hurtful	39.0	32.1	51.7

Less Burden ← 25%–29% 30%–34% 35%–39% 40%–44% 45%–49% 50%–54% → More Burden

QoL, quality of life; VIPs, Vitiligo Impact Patient scale.  
\* A summary of responses including “often,” “very often,” and “all the time” are shown. Twenty questions from the VIPs impact rating were completed as validated with some attributes only applying to fairer or darker skin types.

- Emotional well-being, including self-esteem/stigma, relationships, and work/promotion, was impacted in approximately 25% to 50% of patients overall; notably greater percentages of patients with >5% affected BSA reported impact in these domains (**Figure 2**)
  - 42.0% agreed that having vitiligo made them feel less confident and/or more self-conscious, with significantly higher rates in the United Kingdom (54.2%) and France (45.6%) compared with Spain (33.0%;  $P<0.0001$ / $P<0.001$ ) and Italy (31.0%;  $P<0.0001$ / $P<0.01$ )
  - 42.0% of German respondents also held this belief ( $P<0.05$  vs Italy;  $P<0.01$  vs United Kingdom)
- 41.5% of patients said that “no one understands what it's like to live with vitiligo,” with patients in the United Kingdom (50.2%) and France (48.0%) feeling the most impact
- 31.5% believed they would be further along in their careers if they did not have vitiligo, with significantly higher rates in the United Kingdom (39.8%), France (37.2%), and Germany (32.4%) compared with Spain (22.5%;  $P<0.0001$ / $P<0.001$ / $P<0.05$ ) and Italy (21.5%;  $P<0.0001$ / $P<0.001$ / $P<0.05$ )

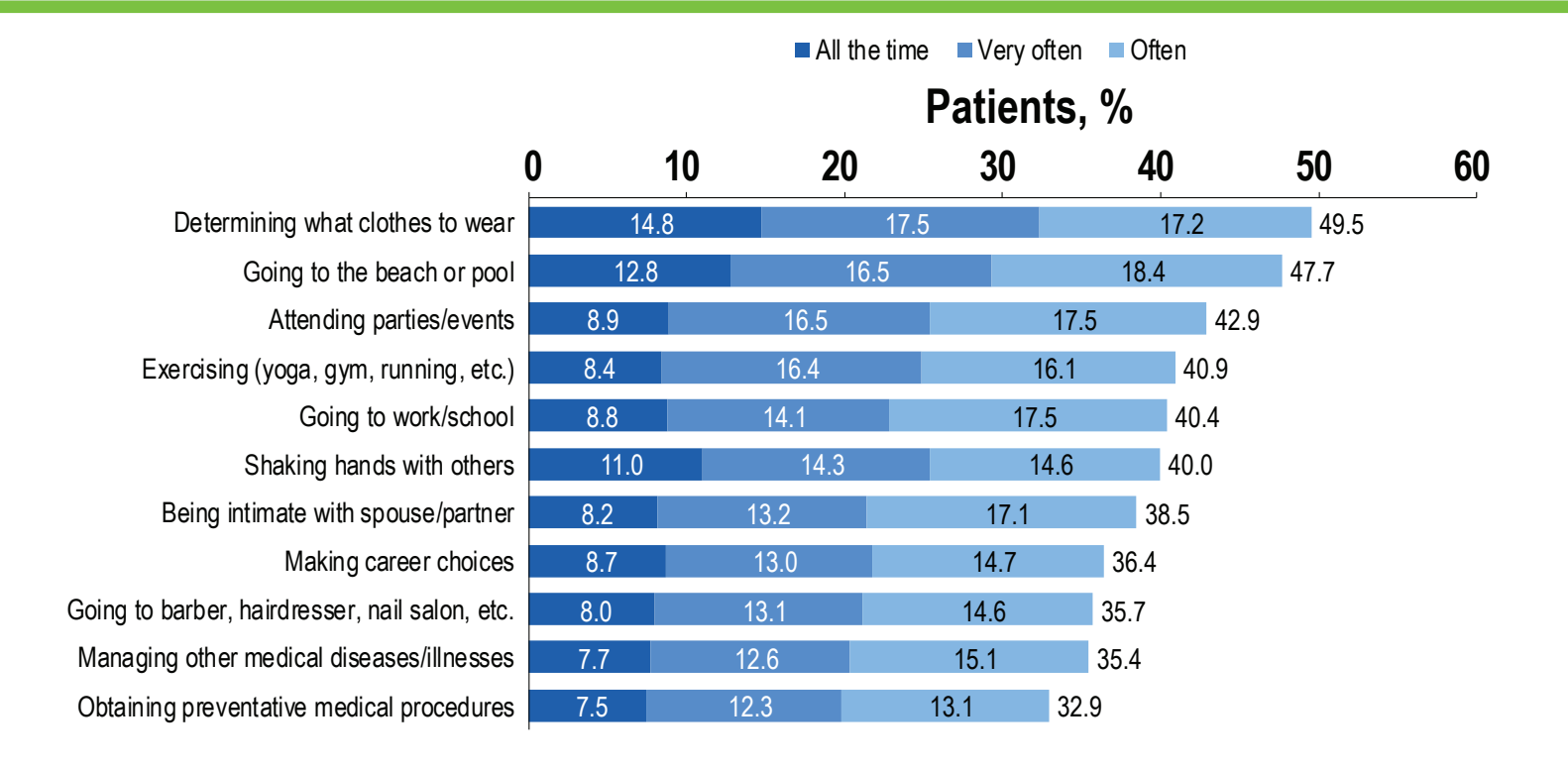
Figure 2. Perceived Impact of Vitiligo on Self-Esteem, Relationships, and Careers\*†



BSA, body surface area; SA-VES, Self Assessment Vitiligo Extent Score.  
\* Includes patients who responded to these questions with “agree” or “strongly agree.”  
† BSA was determined using the SA-VES.

- Vitiligo also impacted patient behavior, with 53.9% reporting frequently hiding their vitiligo, with patients from Germany (60.4%) and France (58.4%) reporting the highest rates ( $P<0.05$ / $P<0.05$  vs Italy [49.0%];  $P<0.01$ / $P<0.001$  vs Spain [43.0%])
- 22.3% of European patients reported believing that the majority of people in their countries think that vitiligo is a “sign of being cursed,” with the highest rate in France (33.2%;  $P<0.0001$  vs Italy [12.0%] and Spain [8.0%])
  - 25.1% and 28.4% of respondents from the United Kingdom and Germany also held this belief
- Furthermore, the daily activities of patients were often affected by their vitiligo, with patients reporting clothing choices (49.5%), attending social activities (beach/pool [47.7%], parties/events [42.9%], work/school [40.4%]), and exercising (40.9%) as their most stressful daily activities (**Figure 3**)

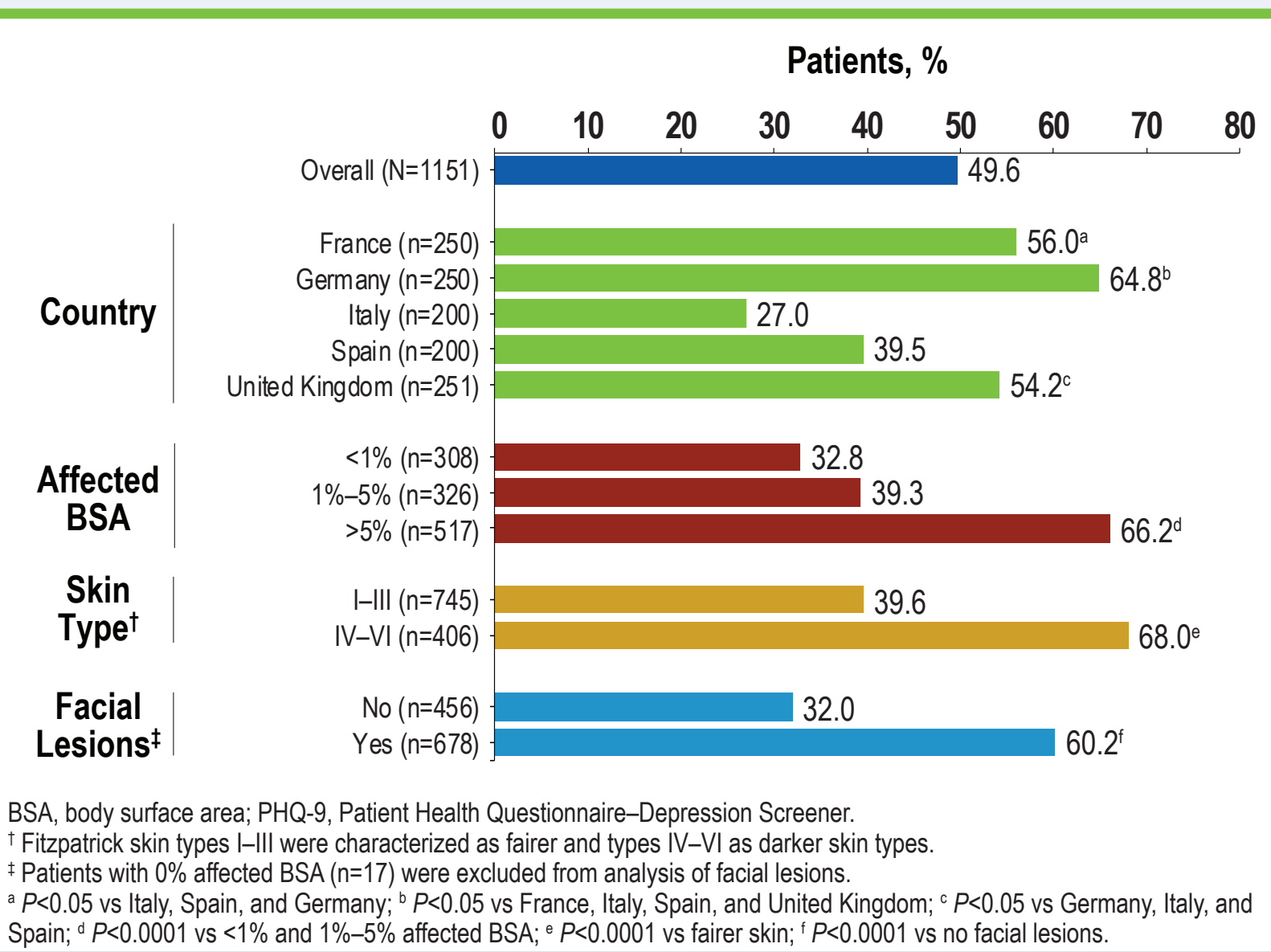
Figure 3. Impact of Vitiligo on Patients' Daily Lives



### Impact of Vitiligo on Mental Health

- More than half (58.3%) of patients reported diagnosed mental health conditions, including anxiety and depression (26.5% and 23.4%, respectively)
- Although nearly a quarter of patients were diagnosed with depression, the PHQ-9 Depression Screener indicated that approximately half (49.6%) of patients had moderate to severe symptoms of depression, with the highest rates in Germany (64.8%; **Figure 4**)
  - Rates of moderate to severe depressive symptoms were significantly higher among patients with >5% affected BSA (66.2% vs 39.3% for BSA of 1%–5% and 32.8% for BSA <1%;  $P<0.0001$  for both), darker skin types (68.0% vs 39.6% for fairer skin;  $P<0.0001$ ), and facial lesions (60.2% vs 32.0% for no facial lesions;  $P<0.0001$ )

Figure 4. Moderate to Severe Depression as Assessed by the PHQ-9 in Patients With Vitiligo



BSA, body surface area; PHQ-9, Patient Health Questionnaire–Depression Screener.  
<sup>1</sup> Fitzpatrick skin types I–III were characterized as fairer and types IV–VI as darker skin types.  
<sup>2</sup> Patients with 0% affected BSA (n=17) were excluded from analysis of facial lesions.  
<sup>3</sup>  $P<0.05$  vs Italy, Spain, and Germany;  $^4 P<0.05$  vs France, Italy, Spain, and United Kingdom;  $^5 P<0.05$  vs Germany, Italy, and Spain;  $^6 P<0.0001$  vs <1% and 1%–5% affected BSA;  $^7 P<0.0001$  vs fairer skin;  $^8 P<0.0001$  vs no facial lesions.

## Limitations

- The current study is limited by selection bias associated with its online nature (ie, only available to patients with internet access), although efforts were made to conduct in-person interviews in populations with limited internet access if needed to reach desired sample size
- Potential errors in measurement inherent to patient-reported outcomes studies may have occurred

## Conclusions

- The results of this survey indicate that from the patients' perception, vitiligo impacts the daily lives, emotional well-being, and careers of patients in Europe
- Patients alter their behavior, express clear discontent, and have symptoms consistent with depression, which may be undiagnosed
  - Although approximately 25% of patients were diagnosed with depression, 50% had symptoms consistent with moderate to severe depression
- Patients from France and Germany were more impacted in aspects of QoL and psychosocial health compared with patients from Italy, Spain, and the United Kingdom
- Patients with >5% affected BSA and darker skin types were affected more strongly by their vitiligo than their counterparts with ≤5% affected BSA and fairer skin types

### Disclosures

KE is a consultant for AbbVie, Incyte Corporation, La Roche-Posay, Pfizer, Pierre Fabre, Sanofi, and Viela Bio. JEH has served as a consultant for AbbVie, Aclaris Therapeutics, BiologicsMD, EMD Serono, Genzyme/Sanofi, Janssen, Pfizer, Rheos Medicines, Sun Pharmaceuticals, TeVido BioDevices, The Expert Institute, 3rd Rock Ventures, and Villarix Therapeutics; has served as an investigator for Aclaris Therapeutics, Celgene, Dermira, EMD Serono, Genzyme/Sanofi, Incyte, LEO Pharma, Pfizer, Rheos Medicines, Stiefel/GlaxoSmithKline, Sun Pharmaceuticals, TeVido BioDevices, and Villarix Therapeutics; holds equity in Aldena Therapeutics, NIRA Biosciences, Rheos Medicines, TeVido BioDevices, and Villarix Therapeutics; is a scientific founder of Aldena Therapeutics, NIRA Biosciences, and Villarix Therapeutics; and has patents pending for IL-15 blockade for treatment of vitiligo, JAK inhibition with light therapy for vitiligo, and CXCR3 antibody depletion for treatment of vitiligo. IHH has served as an advisory board member for AbbVie; a consultant for Boehringer Ingelheim, Galderma Laboratories LP, Incyte, Pfizer, and UCB; a principal investigator for Avita, Bayer, Estée Lauder, Ferndale Laboratories, Incyte, Lencicura, L'Oréal, Pfizer, and Unigen; a subinvestigator for Arcutis; president of the HS Foundation; and a board member of the Global Vitiligo Foundation. KB, JG, and HR are employees and shareholders of Incyte. NVG is a consultant and/or investigator for AbbVie, Incyte, Merck/MSD, Pfizer, and Sun Pharma; and is chair of the Vitiligo Task Force for the European Academy of Dermatology and Venereology (EADV).

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### References

- Rodrigues M, et al. *J Am Acad Dermatol*. 2017;77(1):1-13. 2. Morrison B, et al. *Br J Dermatol*. 2017;177(6):e338-e339. 3. Silverberg JI, Silverberg NB. *JAMA Dermatol*. 2013;149(2):159-164. 4. Bibeau K, et al. *J Eur Acad Dermatol Venereol*. 2022;doi:10.1111/jdv.18257. Epub ahead of print 5. Ezzedine K, et al. *Am J Clin Dermatol*. 2021;22(6):757-774. 6. Lai YC, et al. *Br J Dermatol*. 2017;177(3):708-718. 7. Wang G, et al. *J Eur Acad Dermatol Venereol*. 2018;32(8):1343-1351. 8. Liu J, et al. *Biomed Res Int*. 2021;2021:6663646. 9. Salzes C, et al. *J Invest Dermatol*. 2016;136(1):52-58. 10. Kroenke K, et al. *J Gen Intern Med*. 2001;16(9):606-613. 11. van Geel N, et al. *J Am Acad Dermatol*. 2017;76(3):464-471.



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