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Postrzeganie osób z objawami depresji: rola etykiety, informacji o diagnozie i przekonań na temat depresji

Perception of people with depressive symptoms: The role of labeling, information about diagnosis and beliefs about depression

Rozprawa doktorska przygotowana pod kierunkiem

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Streszczenie

Celem rozprawy była weryfikacja wpływu użycia etykiety „depresja” oraz informacji o diagnozie lekarskiej na postrzeganie osoby z objawami depresyjnymi jako faktycznie doświadczającej depresji oraz problemu medycznego oraz sprawdzenie czy: efekty te są moderowane przez własne doświadczenia z depresją i czy postrzeganie to różni się w zależności od płci opisywanej osoby. Kolejnym celem było zaproponowanie nowego dwuwymiarowego modelu przekonań na temat depresji: wiedzę opartą na naukowym rozumieniu depresji (*depression literacy*) i błędne przekonania wynikające ze stereotypów (*misconceptions*) oraz weryfikacja, czy tak rozumiane przekonania moderują testowane efekty użycia etykiety „depresja” oraz informacji o diagnozie na postrzeganie osoby z objawami depresji.

Pierwsza seria badań (trzy eksperymenty i metaanaliza) wykazała, że użycie etykiety „depresja” wzmacnia postrzeganie osoby jako faktycznie doświadczającej depresji, ale tylko wtedy, gdy etykiecie towarzyszy informacja o diagnozie lekarskiej oraz, że etykieta „depresja” osłabia postrzeganie opisanej osoby jako doświadczającej problemu medycznego, nawet gdy etykiecie towarzyszy informacja o diagnozie.

Druga seria badań dotyczyła konstrukcji i walidacji skali DepSter, mierzącej przekonania na temat depresji zgodne z zaproponowanym dwuwymiarowym modelem: wiedzę opartą na naukowym rozumieniu depresji oraz błędne przekonania wynikające ze stereotypów. Przeprowadziłam także eksperyment, którego wyniki zreplikowały efekty etykietowania i diagnozy z pierwszej serii badań oraz wykazał, że przekonania na temat depresji moderują te zależności. Wiedza na temat depresji była pozytywnie związana z postrzeganiem osoby jako doświadczającej depresji i problemu medycznego, choć efekt ten był silniejszy w przypadku postrzegania depresji. Błędne przekonania korelowały negatywnie z postrzeganiem osoby jako doświadczającej depresji i problemu medycznego - w tym przypadku efekt był silniejszy dla postrzegania problemu medycznego.

Słowa kluczowe: depresja, etykietowanie, diagnoza lekarska, przekonania na temat depresji, postrzeganie, DepSter

Abstract

The aim of this dissertation was to verify how the label "depression" and information about a medical diagnosis influence the perception of an individual with depressive symptoms as actually experiencing depression and a medical condition. The studies explored if these effects were moderated by the perceiver's personal experience with depression and the described individual’s gender. A second objective was to propose a new, two-dimensional model of beliefs about depression, differentiating between depression literacy (scientific knowledge) and misconceptions (stereotypical, culturally-specific knowledge). Within this scope, the DepSter scale was developed. The dissertation also verified if these beliefs moderated the labeling/diagnosis effects.

The first series of studies (three experiments and a meta-analysis) found that the "depression" label strengthens the perception of an individual with depressive symptoms as actually experiencing depression, but only when accompanied by information about a medical diagnosis. The label, even with a diagnosis, weakened the perception of the individual as experiencing a medical condition.

The second series of studies involved the construction and validation of DepSter scale, measuring the two-dimensional model of beliefs about depression, and an experiment. Results of this experiment replicated the findings regarding label/diagnosis effects and revealed that beliefs about depression moderate these effects: depression literacy was positively associated with perceiving the individual as experiencing depression and a medical condition, with this effect being stronger for the perception of depression. Misconceptions correlated negatively with perceiving the individual as experiencing depression and a medical condition - the effect was stronger for the perception of a medical condition.

Key words: depression, labeling, medical diagnosis, beliefs about depression, perception, DepSter

Wprowadzenie

Etykietowanie

Etykietowanie ma długą historię w naukach społecznych. Już George Herbert Mead (1934) postulował, że do wykształcenia obrazu siebie niezbędne są interakcje społeczne, w których internalizujemy przekonania, postawy i oczekiwania, jakie naszym zdaniem mają wobec nas inni. Mechanizm ten stał się podstawą opisanego przez Howarda Beckera (1966) procesu etykietowania rozumianego jako proces naznaczenia społecznego, piętnującego zachowania odbiegające od przyjętych norm i reguł życia społecznego. Proces ten, często rozpoczynający się od przypadkowego naruszenia norm lub zasad, prowadzi do negatywnej reakcji społecznej na dane zachowania, poprzez nadanie sprawcy określonej etykiety (np. „złodziej") i postrzegania go wyłącznie przez pryzmat zgodnego z tą etykietą dewiacyjnego zachowania. W konsekwencji osoba naznaczona internalizuje przypisaną jej etykietę, tworząc na tej podstawie własną tożsamość. Tak rozumiane etykietowanie, jako zinternalizowane naznaczenie i wykształcenie tożsamości w oparciu o nadaną etykietę stało się podstawą klasycznej teorii etykietowania społecznego chorób psychicznych (Scheff, 1974). Zgodnie z tą teorią (Scheff, 1999) argumentował, że etykieta „chorego psychicznie" nie tylko naznacza społecznie, ale też stabilizuje naznaczonego w roli społecznie chorego podtrzymując tym samym istnienie choroby. Innymi słowy, zinternalizowane przekonania na temat osób chorujących psychicznie prowadzą do wykształcenia tożsamości wokół tych przekonań, która z kolei podtrzymuje społeczną rolę chorego, a ta rola konstytuuje chorobę.

Rozwój psychiatrii i psychofarmakologii spowodował zmiany w definiowaniu zaburzeń zdrowia psychicznego – zrezygnowano z klasyfikacji opisowych, które upatrywały przyczyn zaburzeń w mechanizmach wywodzących się z myśli psychoanalitycznej, wprowadzając w ich miejsce rewolucyjny w swej naturze podręcznik DSM-III (American Psychiatric Association, 1980). Był to pierwszy podręcznik definiujący przyczyny zaburzeń zdrowia psychicznego w kategoriach biomedycznych i koncentrujący się na obserwowalnych objawach (Horwitz, 2002). Zmiany te przyczyniły się do skonkretyzowania diagnoz psychiatrycznych oraz zwiększenia ich rzetelności, czyniąc tym samym zaburzenia zdrowia psychicznego czymś konkretnym i realnym, mającym biologiczne podłoże. Spowodowały też szereg zmian w sposobie leczenia – zwiększyły jego dostępność dzięki przejściu na system oparty o leczenie ambulatoryjne zamiast instytucjonalnego, co doprowadziło również do zmiany sytuacji społecznej osób z zaburzeniami zdrowia psychicznego (Mayes & Horwitz, 2005). Zmiany te skutkowały także modyfikacją klasycznej teorii etykietowania społecznego.

Zmodyfikowana wersja tej teorii (Link, 1987; Link et al., 1989) zakłada, że choroba lub zaburzenie jest czymś realnym, mającym biologiczne podłoże, a nie rolą społeczną wynikającą z naznaczenia. Etykieta nie służy już do konstytuowania chorobę, lecz uruchamia proces oczekiwania społecznych konsekwencji w postaci stygmatyzacji. Zmodyfikowana teoria etykietowania społecznego zakłada, że jeszcze przed otrzymaniem diagnozy psychiatrycznej osoba jest świadoma istnienia przekonań społecznych i postaw wobec osób z zaburzeniami zdrowia psychicznego. Uzyskanie diagnozy sprawia, że osoba taka oczekuje, iż ludzie będą się wobec niej zachowywać zgodnie z istniejącymi stereotypami. Oczekiwania te prowadzą z kolei do wycofania, izolacji społecznej i spadku jakości życia (Link et al., 1987; Schauman et al., 2019).

Społeczne przekonania na temat zaburzeń zdrowia psychicznego

Zmodyfikowana teoria etykietowania społecznego, podkreślająca znaczenie potocznych przekonań dotyczących zdrowia psychicznego, zapoczątkowała liczne badania nad tym, jak diagnoza psychiatryczna kształtuje społeczne postrzeganie zaburzeń zdrowia psychicznego oraz stosunek do osób, które ich doświadczają (Kroska & Harkness, 2008; Link et al., 1999). Trzy najważniejsze tradycje badawcze związane z potocznymi przekonaniami na temat zaburzeń zdrowia psychicznego obejmują (1) postawy wobec osób z zaburzeniami zdrowia psychicznego, (2) potoczne teorii dotyczące ich przyczyn oraz (3) wiedzę i kompetencje w tym zakresie (*mental health literacy*) (Furnham & Telfor, 2012).

W pierwszym nurcie badań najczęściej porównuje się postawy wobec osób z diagnozą różnych zaburzeń zdrowia psychicznego, przekonania na temat metod leczenia oraz poziom stygmatyzacji poszczególnych zaburzeń (Angermeyer & Matschinger, 2003b, 2003a). Ten typ badań jest szczególnie przydatny w porównaniach dotyczących poziomu stygmatyzacji w różnych krajach (Angermeyer et al., 2004) lub grupach zawodowych (Neauport et al., 2012; Reavley et al., 2014). Pozwala także uchwycić zmiany w poziomie stygmatyzacji zaburzeń zdrowia psychicznego na przestrzeni czasu (Pescosolido et al., 2021; Schomerus et al., 2012). Procedura badania najczęściej polega na przedstawieniu opisu osoby doświadczającej pewnych objawów i zastosowaniu etykiety w postaci diagnozy psychiatrycznej, takiej jak depresja czy schizofrenia (Magliano et al., 2017; Svensson & Hansson, 2016), różnych etykiet określających zaburzenia zdrowia psychicznego (Szeto et al., 2013), lub różnych form językowych popularnych etykiet (Cuttler & Ryckman, 2019; Krzyzanowski et al., 2019; Mallinson et al., 2024).

Drugie z podejść ma na celu poznanie potocznych koncepcji przyczyn zaburzeń zdrowia psychicznego, opinii publicznej na temat skuteczności różnych form leczenia oraz tego, w jaki sposób różne postrzeganie przyczyn wiąże się ze stygmatyzacją osób z zaburzeniami zdrowia psychicznego oraz tego jak wpływa na gotowość do szukania pomocy psychologicznej (Barnwell et al., 2022; Furnham et al., 2016). Wyniki badań prowadzonych w tym nurcie wskazują że osoby doświadczające epizodu depresyjnego w momencie badania, chętniej niż osoby niebędące w depresji oraz psychologowie kliniczni, wskazywały na wartość wyjaśnień biologicznych (Kuyken et al., 1992). Wyniki innych badań pokazują, że laicy (osoby bez wykształcenia medycznego i psychologicznego) preferują psychospołeczne wyjaśnienia przyczyn depresji (Cleveland et al., 2013) oraz częściej wskazują psychoterapię niż farmakoterapię jako preferowaną metodę leczenia depresji (Lauber et al., 2001). Badania pokazują również, że sposób w określenia przyczyny zaburzeń zdrowia psychicznego ma znaczenie dla stopnia stygmatyzacji danego zaburzenia. Biologiczne i genetyczne wyjaśnienia przyczyn zaburzeń zdrowia psychicznego prowadzą do zwiększonego postrzegania osób z tymi zaburzeniami jako niebezpiecznych i zagrażających (Haslam & Kvaale, 2015; Jorm et al., 2012), natomiast wyjaśnienia natury psychospołecznej mogą sprzyjać obniżeniu stygmatyzacji (Pullen et al., 2022). W tym przypadku jednak kluczowa wydaje się być konkretna przyczyna – przedstawienie depresji jako rezultatu doświadczanej przemocy i zaniedbania sprawia, że osoby z depresją postrzegane są jako bardziej niebezpieczne niż wtedy, kiedy za przyczynę depresji uznaje się aktualne trudności życiowe lub trudności relacyjne (Huggard & O’Connor, 2025).

Coraz częściej w ramach tego nurtu bada się także przekonania o tzw. *continuum beliefs*, czyli przekonania o tym, że zaburzenia zdrowia psychicznego różnią się od psychicznej normy w znacznie bardziej subtelny sposób, niż zakłada tradycyjny, nozologiczny model kategorialny (Tomczyk et al., 2023). Model *continuum beliefs* przyjmuje, że zdrowie psychiczne i zaburzenia zdrowia psychicznego nie są odrębnymi kategoriami różniącymi się obecnością lub brakiem występowania określonych doświadczeń, lecz stanowią wymiary jednego kontinuum. Zgodnie z tym modelem każda osoba w ciągu życia może doświadczyć stanu, który swoim charakterem przypomina zaburzenie, np. epizod depresyjny (Schomerus et al., 2023). Osoby podzielające przekonanie, że zdrowie i zaburzenie to kontinuum ludzkiego doświadczenia są bardziej skłonne dostrzegać podobieństwo własnych przeżyć do doświadczeń osób ze zdiagnozowanymi zaburzeniami zdrowia psychicznego, co skutkuje m.in. postrzeganiem większego podobieństwa do osób z kliniczną depresją (Buckwitz et al., 2022), mniejszą stygmatyzacją (Buckwitz et al., 2021; Peter et al., 2021; Thibodeau, 2020) oraz bardziej pozytywnym nastawieniem do szukania pomocy (Tan et al., 2020).

Trzecią tradycją badań nad wiedzą społeczną dotyczącą zaburzeń zdrowia psychicznego, zyskującą w ostatnim czasie ogromną popularność (Sweileh, 2021) jest badanie *mental health literacy*, czyli wiedzy i przekonań na temat zaburzeń psychicznych, które pomagają laikom w ich rozpoznawaniu, radzeniu sobie z nimi i zapobieganiu im (Jorm et al., 1997). Klasyczne pojęcie obejmujące wiedzę o faktycznej dostępności i skuteczności różnych metod leczenia, strategii samopomocy oraz sposobów wsparcia osób w kryzysach zdrowia psychicznego (Jorm, 2012) zostało w rozszerzone o komponent wiedzy na temat metod zmniejszania stygmatyzacji wokół tematu zdrowia psychicznego, sposobów skutecznego szukania pomocy oraz wiedzy o tym, jak dbać o zdrowie psychiczne (Kutcher et al., 2016). Poziom *mental health literacy* uważany jest za cechę indywidualną, której poziom różni się w zależności od płci, wieku i kultury (Furnham & Swami, 2018).

Z perspektywy niniejszej rozprawy istotne jest, że w literaturze uwzględnia się dwa sposoby pomiaru *mental health literacy*. Pierwszy z nich, zbliżony metodologicznie do badań nad postawami wobec osób z zaburzeniami zdrowia psychicznego, wykorzystuje scenariusze i opisy. Uczestnikom przedstawia się opis osoby doświadczającej pewnych, a następnie prosi o wskazanie najbardziej prawdopodobnej diagnozy lub najskuteczniejszych metod leczenia (Cotton et al., 2006; Fisher & Goldney, 2003; Loureiro et al., 2013; Svensson & Hansson, 2016).

W przeciwieństwie do badań nad postawami, w tym paradygmacie nie wykorzystuje się etykiet (Angermeyer & Matschinger, 2003b; Fekih-Romdhane et al., 2023). Drugi sposób polega na wykorzystaniu narzędzi psychometrycznych do pomiary ogólnego poziomu *mental health literacy* (O'Connor & Casey, 2015) lub wiedzy i kompetencji dotyczących konkretnego zaburzenia zdrowia psychicznego, np. depresji (Gabriel & Violato, 2010; Griffiths et al., 2004). Są one łatwym i prostym sposobem pomiaru często stosowanym w badaniach populacyjnych lub przy ocenie skuteczności działań mających na celu podnoszeniu poziomu wiedzy o zdrowiu psychicznym (Chow et al., 2024; Griffiths et al., 2014).

Z perspektywy niniejszej rozprawy kluczowe jest, że wyżej wymienione narzędzia psychometryczne do pomiaru *mental health literacy* i *depression literacy* (Griffiths et al., 2004; O'Connor & Casey, 2015) badają szeroki zakres wiedzy na temat zdrowia psychicznego i konkretnych zaburzeń – zarówno tej zgodnej z aktualnym stanem wiedzy naukowej, jak i tej stereotypowej czy niezgodnej w naukowym dyskursem, traktując je jako dwa bieguny jednego wymiaru. Innymi słowy, klasyczne modele nie rozróżniają wiedzy opartej na dowodach naukowych i potocznych przekonań na temat zdrowia psychicznego, traktując je jako jeden komponent wiedzy ogólnej. O ile potoczna wiedza i przekonania wynikają do pewnego stopnia z obowiązującego dyskursu i naukowego konsensusu, to nie zawsze muszą być z nim spójne (Kangas, 2001, 2002; Shaw, 2002). W niniejszej rozprawie zaproponowałam więc i zwalidowałam dwuwymiarowy model przekonań o depresji.

Cel rozprawy

Depresja jest jednym z najczęściej występujących zaburzeń zdrowia psychicznego na świecie, na które, według szacunków Światowej Organizacji Zdrowia (WHO), cierpi 5,7% dorosłej populacji (WHO, 2025). Według danych Institute for Health Metrics and Evaluation (IHME) w samym tylko roku 2023 depresję rozpoznano u ponad 303 milionów ludzi na świecie (IHME, 2025). Polskie dane zgromadzone przez Instytut Psychiatrii i Neurologii w ramach kompleksowego badania stanu zdrowia psychicznego społeczeństwa i jego uwarunkowań (EZOP-II) pokazują, że ponad milion dwieście tysięcy dorosłych doświadczyło epizodu depresyjnego przynajmniej raz w życiu, a w ciągu ostatnich 12 miesięcy przed badaniem zmagało się z nim ponad dwieście czterdzieści tysięcy osób (IPiN, 2021). Depresja jest także jedną z wiodących przyczyn niepełnosprawności, a w samych Stanach Zjednoczonych koszty pośrednio lub bezpośrednio z nią związane szacuje się na 326,6 miliarda dolarów (Greenberg et al., 2021). Nie jest więc zaskakujące, że depresja traktowana jest i opisywana jako jedno z najczęstszych zaburzeń zdrowia psychicznego wszech czasów (Horwitz et al., 2017). Zgodnie z wynikami niedawnej analizy (H. Wang et al., 2021) w latach 2004-2019 na temat depresji opublikowano ponad 36 tysięcy artykułów w czasopismach naukowych z takich dyscyplin jak neuronauka, neurologia, psychiatria, psychologia czy zdrowie publiczne. Naukowa wiedza na temat depresji – jej przyczyn, sposobów leczenia, prewencji i konsekwencji społecznych – jest dobrze udokumentowana (Pettit et al., 2025). W ostatnich latach, szczególnie w dobie pandemii, znacząco wzrosło społeczne zainteresowanie depresją także w przestrzeni publicznej, co przełożyło się na liczbę wyszukiwań informacji na temat depresji w Internecie (Vaidyanathan et al., 2022; A. Wang et al., 2022). Depresja stała się też popularnym tematem wśród twórców internetowych, którzy coraz częściej poruszają problematykę zdrowia psychicznego (Devendorf et al., 2020; Mittmann et al., 2024). Wciąż jednak w przestrzeni publicznej depresja często pojawia się w kontekście innych terminów bezpośrednio związanych z psychopatologią, takich jak diagnoza, zaburzenie czy objawy (Xiao et al., 2023), a użycie etykiet diagnostycznych zwiększa szansę, że nawet klinicznie nieistotne objawy mogą być postrzegane jako wymagające profesjonalnej pomocy (Altmann et al., 2024).

Rosnące zainteresowanie tematyką depresji w przestrzeni publicznej oraz zmiana znaczenia procesu etykietowania – z procesu kształtującego tożsamość na proces prowadzący do negatywnych konsekwencji dla postrzegania etykietowanych osób i znaczenia etykiet diagnostycznych dla percepcji objawów – były motywem przewodnim powstania niniejszej rozprawy. Pierwszym celem rozprawy była empiryczna weryfikacja efektu użycia etykiety „depresja" oraz informacji o diagnozie lekarskiej na postrzeganie osoby z objawami depresyjnymi jako faktycznie doświadczającej depresji oraz problemu medycznego, a także sprawdzenie czy efekty te są moderowane przez własne doświadczenia z depresją oraz czy postrzeganie to różni się w zależności od płci opisywanej osoby. Drugim celem rozprawy było zaproponowanie nowego modelu przekonań na temat depresji, ujmującego je dwuwymiarowo – jako wiedzę na temat depresji opartą na danych naukowych (depression literacy) oraz przekonania wynikające ze stereotypowej, kulturowo specyficznej wiedzy (misconceptions). W ramach rozprawy przygotowałam i zwalidowałam narzędzie mierzące w ten sposób rozumiane przekonania o depresji. Zweryfikowałam także, czy testowane efekty dotyczące użycia etykiety „depresja" oraz informacji o diagnozie lekarskiej na postrzeganie osoby z objawami depresji są moderowane przez przekonania na temat depresji zgodne z zaproponowanym modelem.

Przegląd badań

W ramach niniejszej rozprawy doktorskiej przeprowadziłam serię siedemnastu badań na łącznej liczbie ponad 9700 uczestników z trzech krajów (Polski, Wielkiej Brytanii i Stanów Zjednoczonych), zrekrutowanych głównie za pośrednictwem platform badawczych – jedno badanie przeprowadzono za pośrednictwem Panelu Badawczego Ariadna, jedno za pośrednictwem platformy MTurk, a pozostałe piętnaście za pośrednictwem panelu Prolific Academic. Większość badań została prerejestrowana w systemie AsPredicted. Badania tworzą dwie tematycznie spójne serie. Pierwsza, weryfikująca wpływ etykiety „depresja" oraz informacji o diagnozie lekarskiej na postrzeganie osób z objawami depresji jako faktycznie doświadczających depresji oraz problemu medycznego, została opublikowana w czasopiśmie Frontiers in Psychiatry (Kulwicka et al., 2025). Druga, dotycząca konstrukcji i walidacji skali przekonań na temat depresji (DepSter), została opublikowana w czasopiśmie BMC Psychiatry (Kulwicka & Gasiorowska, 2023)Eksperyment dotyczący moderującego wpływu przekonań na temat depresji na efekt etykiety oraz informacji o diagnozie medycznej na postrzeganie osób z objawami depresji jako faktycznie doświadczających depresji oraz problemu medycznego, stanowiący kontynuację tej serii, został opracowany, a przygotowany na podstawie jego wyników artykuł wysłano do czasopisma Social Psychiatry and Psychiatric Epidemiology, gdzie w chwili składania rozprawy jest wciąż procedowany.

Pierwsza seria badań

Celem pierwszej serii badań, obejmującej trzy badania eksperymentalne oraz ich metaanalizę, było zweryfikowanie wpływu etykietowania oraz informacji o profesjonalnej diagnozie lekarskiej na postrzeganie osób z objawami depresyjnymi jako faktycznie doświadczających depresji i problemu medycznego.

W pierwszym eksperymencie przeprowadzonym na próbie amerykańskiej osoby badane zapoznawały się z opisem osoby doświadczającej objawów ciężkiego epizodu depresyjnego zgodnych z kryteriami DSM-5 (American Psychiatric Association, 2013), sformułowanym w codziennym języku (Ziółkowska, 2012). W zależności od warunku eksperymentalnego opisowi temu towarzyszyła (vs nie) etykieta „depresja” oraz informacja o otrzymaniu diagnozy od lekarza (vs brak takiej informacji). Następnie osoby badane miały za zadanie odpowiedzieć na pytanie, na ile ich zdaniem prawdopodobne jest, że opisana osoba doświadcza depresji, oraz na ile prawdopodobne jest, że opisana osoba doświadcza problemu medycznego. Na oba pytania osoby badane odpowiadały na skali od 0 – całkowicie nieprawdopodobne, do 100 – całkowicie prawdopodobne. Postawiłam następujące hipotezy: (H1) osoby badane uznają za bardziej prawdopodobne, że opisana osoba doświadcza depresji gdy opisowi towarzyszy etykieta „depresja” niż wtedy, gdy jej nia ma, (H2): efekt ten będzie silniejszy gdy etykiecie „depresja” towarzyszy informacja o diagnozie otrzymanej od lekarza.

Eksplorowałam także, czy etykieta i informacja o diagnozie będą wpływać na postrzegane prawdopodobieństwo doświadczania problemu medycznego. Wyniki eksperymentu nie potwierdziły postulowanych hipotez. Wykazały natomiast, że osoby badane postrzegały opisywaną osobę jako doświadczającą depresji w większym stopniu wtedy, kiedy etykiecie „depresja" towarzyszyła informacja o diagnozie postawionej przez lekarza, ale nie wtedy, kiedy informacji o diagnozie nie było. Co więcej, wyniki pokazały również, że etykieta „depresja" obniżała postrzeganie osoby jako doświadczającej problemu medycznego nawet wtedy, kiedy etykiecie depresja towarzyszyła informacja o diagnozie lekarskiej.

W drugim prerejestrowanym eksperymencie, przeprowadzonym ponownie na próbie amerykańskiej, weryfikowałam, czy efekty zaobserwowane w Eksperymencie 1 będą moderowane przez własne doświadczenie z depresją uczestników. Założyłam, że to doświadczenie okaże się istotnym moderatorem, ponieważ osoby, które doświadczyły i nie doświadczyły depresji, różnią się w rozumieniu tego stanu oraz w postawach wobec osób z diagnozą depresji (Svensson & Hansson, 2016; Wernicke et al., 2006). W tym celu zaprosiłam do udziału osoby, które w pytaniach prescreeningowych na platformie Prolific deklarowały, że mają depresję, oraz osoby, które deklarowały, że depresji nie mają. Ponieważ w poprzednim badaniu zmienną zależną mierzyłam tylko jednym pytaniem, zmodyfikowałam sposób jej pomiaru, zadając bardziej szczegółowe pytania dotyczące stanu opisanej osoby. Poza tymi zmianami procedura badania była taka sama jak w eksperymencie 1. Podobnie jak wcześniej, założyłam, że (H1) uczestnicy uznają za bardziej prawdopodobne, że opisana osoba doświadcza depresji, gdy opisowi towarzyszy etykieta „depresja", niż gdy jej nie ma; (H2) efekt ten będzie silniejszy, jeśli etykiecie „depresja" będzie towarzyszyć informacja o diagnozie postawionej przez lekarza. Dodatkowo założyłam, że (H3) efekty te będą silniejsze u osób, które same doświadczają depresji, niż u tych, które nie mają takiego doświadczenia. Wyniki eksperymentu 2 nie potwierdziły tych hipotez, ale wykazały podobne zależności jak w eksperymencie 1: opisana osoba była postrzegana jako doświadczająca depresji w większym stopniu, gdy etykiecie „depresja" towarzyszyła informacja o diagnozie lekarskiej, ale nie wtedy, gdy tej informacji brakowało. Wyniki nie potwierdziły hipotez o moderującym wpływie własnego doświadczenia z depresją, sugerując, że interakcja między etykietą „depresja” a informacją o diagnozie lekarskiej jest niezależna od tego, czy uczestnicy sami doświadczają depresji. Podobnie jak w eksperymencie 1, wyniki pokazały również, że w warunku informacji o diagnozie lekarskiej opisana osoba była postrzegana jako doświadczająca problemu medycznego w mniejszym stopniu, gdy pojawiała się etykieta „depresja”, niż gdy jej nie było. Co ciekawe, efekty te również okazały się niezależne od tego, czy uczestnicy mieli własne doświadczenie z depresji.

W trzecim prerejestrowanym eksperymencie sprawdzałam, czy wyniki eksperymentów 1 i 2 zreplikują się na próbie brytyjskiej. Stany Zjednoczone i Wielka Brytania różnią się pod względem polityk publicznych dotyczących zdrowia publicznego, w tym dostępem do specjalistycznej opieki zdrowia psychicznego (Lake & Turner, 2017). Wielka Brytania wyprzedza także Stany Zjednoczone pod względem skutecznych działań promujących wiedzę na temat zdrowia psychicznego (Mental Health Foundation, 2017; Reinert et al., 2024). Uznałam więc, że interesujące będzie zweryfikowanie wyników poprzednich badań na próbie brytyjskiej. Procedura była taka sama jak w eksperymentach 1 i 2, z tą różnicą, że tym razem zmieniłam także imię opisywanej osoby. W eksperymentach 1 i 2 używałam imienia „Alex”, które miało być neutralne płciowo, jednak użycie żeńskich form w dalszym opisie sugerowało, że opisana osoba jest kobietą. Ponieważ różnice w częstości diagnozowania depresji u kobiet i mężczyzn są znaczne – diagnozę tę częściej stawia się kobietom i niewiele się to zmienia na przestrzeni lat (Kuehner, 2017; Platt et al., 2020, 2021) – w eksperymencie 3 użyłam zarówno imienia męskiego („John”), jak i żeńskiego („Margaret”). W tym eksperymencie weryfikowałam przede wszystkim hipotezę o istotnej interakcji między etykietą „depresja” a informacją o diagnozie postawionej przez lekarza – zakładałam, że (H1) osoby badane uznają za bardziej prawdopodobne, że opisana osoba doświadcza depresji wtedy, gdy opisowi towarzyszy etykieta „depresja”, niż gdy jej nie ma; (H2) efekt ten będzie słabszy lub nawet nieistotny w przypadku braku informacji o diagnozie postawionej przez lekarza. Nie postawiłam konkretnych hipotez dotyczących płci opisywanej osoby – analizy miały charakter eksploracyjny. Wyniki eksperymentu 3 potwierdziły wyniki uzyskane w eksperymentach 1 i 2 dotyczące interakcji etykiety i informacji o diagnozie lekarskiej na postrzeganie osoby jako doświadczającej depresji, ale tylko w odniesieniu do osoby o imieniu „John" – była ona postrzegana jako doświadczająca depresji w większym stopniu wtedy, gdy etykiecie „depresja" towarzyszyła informacja o diagnozie lekarskiej, ale nie wtedy, gdy tej informacji nie było. Dla osoby o imieniu „Margaret" efekt etykiety okazał się istotny – była ona postrzegana jako doświadczająca depresji w większym stopniu, gdy opis zawierał etykietę „depresja", niż gdy jej nie było. Efekt diagnozy okazał się nieistotny, podobnie jak efekt interakcji między diagnozą a etykietą. W przypadku postrzegania osoby jako doświadczającej problemu medycznego w eksperymencie 3 zreplikowałyśmy wyniki uzyskane w eksperymentach 1 i 2 – etykieta „depresja" obniżyła postrzeganie osoby jako doświadczającej problemu medycznego, nawet gdy etykiecie towarzyszyła informacja o diagnozie lekarskiej. Imię opisywanej osoby nie różnicowało wyników w tym zakresie.

Przeprowadziłam również metaanalizę dla wyników uzyskanych w Eksperymentach 1-3, zgodnie z podejściem single-paper-metaanalysis (McShane & Böckenholt, 2017). Wyniki metaanalizy wzmocniły tezę, że etykieta „depresja" wzmacnia postrzeganie osoby z objawami depresyjnymi jako faktycznie doświadczającej depresji, ale tylko wtedy, gdy etykiecie towarzyszy informacja o diagnozie lekarskiej. Wyniki metaanalizy potwierdziły również tezę, że etykieta „depresja" osłabia postrzeganie opisanej osoby jako doświadczającej problemu medycznego, gdy diagnoza została postawiona przez lekarza.

Druga seria badań

Kolejnym celem rozprawy było zaproponowanie nowego modelu przekonań na temat depresji, który ujmuje je dwuwymiarowo – jako wiedzę na temat depresji wywodzącą się z danych naukowych (*depression literacy*) oraz przekonania wynikające z wiedzy stereotypowej, specyficznej kulturowo (*misconceptions*).

W ramach drugiej serii badań, obejmującej jedenaście badań, w tym jedno eksperymentalne, przygotowałam i zwalidowałam narzędzie mierzące przekonania o depresji (DepSter) w polskiej i angielskiej wersji językowej. Zweryfikowałam także, czy testowane efekty dotyczące użycia etykiety „depresja" oraz informacji o diagnozie lekarskiej na postrzeganie osoby z objawami depresji są moderowane przez przekonania na temat depresji zgodne z zaproponowanym modelem. Po drugie, sprawdziłam, czy mierzone w ten sposób przekonania na temat depresji moderują związek pomiędzy użyciem etykiety „depresja” oraz informacją o diagnozie lekarskiej a postrzeganiem osób z objawami depresyjnymi jako faktycznie doświadczających depresji oraz problemu medycznego, co zostało zaobserwowane w pierwszej serii badań.

Pierwszym etapem konstrukcji narzędzia było wygenerowanie puli ponad stu pozycji testowych, zawierających zgodnie z zakładaną strukturą narzędzia twierdzenia na temat depresji zgodne ze współczesną wiedzą naukową oraz stwierdzenia odnoszące się do stereotypów na temat depresji. W wyniku procedury sędziów kompetentnych pierwotną liczbę pozycji zredukowano do 15. Badanie wstępne przeprowadzone na polskiej próbie pozwoliło przetestować zarówno dwuczynnikową strukturę narzędzia, jak i porównać ją z modelem jednoczynnikowym. Wyniki konfirmacyjnej analizy czynnikowej wykazały, że model dwuczynnikowy był lepiej dopasowany do danych niż model jednoczynnikowy. W wyniku tej analizy ostateczną pulę pozycji testowych zredukowano do 14. W kolejnych trzech badaniach przeprowadzonych na próbach polskiej, amerykańskiej i brytyjskiej model dwuczynnikowy również okazał się lepiej dopasowany do danych niż model jednoczynnikowy. Równorzędność polskojęzycznej i anglojęzycznej wersji skali testowałyśmy w grupach osób badanych z trzech krajów, oddzielnie dla uczestników z Polski (n = 3451), Stanów Zjednoczonych (n = 420) oraz Wielkiej Brytanii (n = 898). Przeprowadzone analizy wykazały, że model pozostawał spójny we wszystkich grupach pod względem niezmienności konfiguracyjnej i metrycznej, choć nie osiągnięto niezmienności skalarnej. Zaobserwowałam częściową niezmienność skalarną dla wymiaru wiedzy o depresji (*depression literacy*) oraz brak niezmienności skalarnej dla wymiaru błędnych przekonań na temat depresji (*misconceptions about depression*). Wynik ten interpretuję jako pośredni dowód na kulturowy aspekt kształtowania się błędnych przekonań, ale nie w nabywaniu wiedzy o depresji.

W kolejnych badaniach weryfikowałam trafność teoretyczną dwóch wymiarów przekonań na temat depresji – wiedzy oraz błędnych przekonań ze wskaźnikami demograficznymi. Zgodnie z założeniami, kobiety uzyskiwały wyższe wyniki od mężczyzn na wymiarze wiedzy i niższe na wymiarze fałszywych błędnych przekonań. Podobnie zgodnie z hipotezami, osoby z wyższym poziomem edukacji uzyskiwały wyższe wyniki na wymiarze wiedzy i niższe wyniki na wymiarze błędnych przekonań niż osoby z niższym poziomem edukacji. Nie potwierdziłyśmy natomiast oczekiwanych związków z wiekiem, które wbrew założeniom wyniki okazały się statystycznie nieistotne.

W kolejnym badaniu sprawdzałam, czy proponowane dwa wymiary są związane z takimi konstruktami jak health literacy, mental health literacy oraz uprzedzenia wobec osób z zaburzeniami zdrowia psychicznego. Zgodnie z postawionymi hipotezami, wymiar wiedzy na temat depresji korelował pozytywnie z health literacy i mental health literacy oraz negatywnie z uprzedzeniami wobec osób z zaburzeniami zdrowia psychicznego. Wzorzec wyników dla błędnych przekonań był odwrotny. Istotne jest, że korelacja błędnych przekonań z uprzedzeniami była silniejsza niż korelacja wymiaru wiedzy. Sprawdzałam także, czy przekonania na temat depresji korelują z depression literacy mierzoną istniejącą skalą D-Lit (Griffiths et al., 2004). Zgodnie z założeniami, wymiar wiedzy korelował z tym konstruktem pozytywnie, a wymiar błędnych przekonań – negatywnie. Wyniki uzyskane w tym samym badaniu pokazały, że wymiar błędnych przekonań na temat depresji koreluje pozytywnie z wymiarem stygmy osobistej wobec depresji. Korelacje z wymiarem wiedzy okazały się nieistotne.

W kolejnych badaniach sprawdzałam, czy postulowane przeze mnie wymiary korelują z takimi zmiennymi jak empatia, orientacja na dominację społeczną oraz cechami osobowości zgodnymi z koncepcją Wielkiej Piątki. Rezultaty tych badań pokazały, że wymiar wiedzy pozytywnie korelują z empatią (zwłaszcza z empatyczną troską oraz przyjmowaniem perspektywy), a negatywnie z orientacją na dominację społeczną oraz neurotyzmem. Wymiar błędnych przekonań negatywnie koreluje z empatią i otwartością na doświadczenie, a pozytywnie z orientacją na dominację społeczną i neurotycznością. Co ważne, błędne przekonania silniej korelowały z orientacją na dominację społeczną niż wiedza. Wzorzec ten zaobserwowano zarówno w polskiej jak i brytyjskiej próbie.

Weryfikowałam także trafność kryterialną narzędzia. W tym celu porównałam wyniki uzyskane na wymiarach wiedzy i błędnych przekonań przez osoby z wyższym wykształceniem psychologicznym oraz osoby z wykształceniem wyższym innym niż psychologiczne. Porównywałam również wyniki osób, które miały wcześniejszy kontakt z depresją (bezpośredni – doświadczyły jej same lub pośredni – znały osobę, która doświadczyła depresji), z wynikami osób, które takiego doświadczenia nie miały. Osoby z wyższym wykształceniem psychologicznym uzyskiwały niższe wyniki na skali błędnych przekonań na temat depresji niż osoby z wykształceniem innym niż psychologiczne. Typ wykształcenia nie różnicował jednak wyników uzyskiwanych przez badanych na wymiarze wiedzy na temat depresji. Dodatkowo, osoby, które miały wcześniejszy kontakt z depresją (bezpośredni lub pośredni), uzyskiwały wyższe wyniki na wymiarze wiedzy i niższe na wymiarze błędnych przekonań niż osoby, które nie miały takiego kontaktu.

Wyniki tej serii badań stanowią podstawę do wnioskowania, że proponowane narzędzie spełnia kryteria rzetelności i trafności, umożliwiając pomiar dwóch wymiarów przekonań na temat depresji: wiedzy zgodnej z naukowym podejściem do depresji oraz błędnych przekonań wynikających ze stereotypów dotyczących tego zaburzenia zdrowia psychicznego.

Ostatnią część tej serii badań stanowił prerejestrowany eksperyment, który sprawdzał, czy efekty wpływu etykiety „depresja” oraz informacji o diagnozie lekarskiej na postrzeganie osób z objawami depresyjnymi jako faktycznie doświadczających depresji oraz problemu medycznego, uzyskane w pierwszej serii badań, są moderowane przez przekonania na temat depresji – wiedzę i błędne przekonania – mierzone skalą DepSter. Eksperyment ten badał również, czy powyższe efekty występują także w próbie polskiej. Procedura badania była podobna jak w eksperymentach 1–3 z pierwszej serii, z tą różnicą, że na tydzień przed właściwym eksperymentem osoby badane wypełniały skalę DepSter. Zakładałam istotną interakcję etykiety depresji i diagnozy lekarskiej: opisana osoba będzie postrzegana jako doświadczająca depresji w większym stopniu, gdy etykiecie towarzyszy informacja o diagnozie, a w przypadku braku tej informacji efekt będzie słabszy lub nieistotny. Zakładałam także, że efekty te będą moderowane przez poziom wiedzy na temat depresji: osoby o wysokim poziomie wiedzy będą postrzegały opisaną osobę jako doświadczającą depresji w większym stopniu, niezależnie od obecności etykiety i diagnozy. Efekt etykiety będzie istotny dla osób z niskim poziomem wiedzy. Zakładałam też, że osoby o wysokim poziomie błędnych przekonań na temat depresji będą w mniejszym stopniu postrzegały opisaną osobę jako doświadczającą depresji, niezależnie od obecności etykiety i diagnozy. Przewidywałam również, że podobnie jak w eksperymentach 1–3 wystąpi istotna interakcja między etykietą a diagnozą w postrzeganiu osoby jako doświadczającej problemu medycznego – uczestnicy będą postrzegać osobę jako doświadczającą problemu medycznego w większym stopniu, gdy pojawi się informacja o diagnozie, niż gdy jej nie będzie, a efekt ten będzie słabszy, gdy pojawi się etykieta. Wyniki eksperymentu 4 zreplikowały rezultaty eksperymentów 1–3 w zakresie wpływu etykiety „depresja" i informacji o diagnozie lekarskiej na postrzeganie osoby z objawami depresyjnymi jako faktycznie doświadczającej depresji oraz problemu medycznego. Co więcej, wyniki wykazały specyficzny moderujący efekt dwóch wymiarów przekonań na temat depresji: wiedza na temat depresji była pozytywnie związana z postrzeganiem osoby jako doświadczającej depresji oraz problemu medycznego, a błędne przekonania na temat depresji – negatywnie. Co istotne, dla postrzegania doświadczania depresji efekt wiedzy na temat depresji był silniejszy niż efekt błędnych przekonań, natomiast dla postrzeganego doświadczania problemu medycznego – efekt błędnych przekonań był silniejszy niż efekt wiedzy na temat depresji.

Dyskusja

Celem rozprawy była weryfikacja wpływu etykiety „depresja" i informacji o diagnozie lekarskiej na postrzeganie osób z objawami depresyjnymi, a także zaproponowanie nowego, dwuwymiarowego modelu przekonań na temat depresji. W ramach przygotowywanej rozprawy przeprowadziłam siedemnaście badań podzielonych na dwie linie tematyczne.

Pierwsza seria badań obejmowała trzy eksperymenty oraz ich metaanalizę i koncentrowała się na sprawdzeniu, w jaki sposób etykieta „depresja" oraz informacja o diagnozie lekarskiej wpływają na postrzeganie osób z objawami depresyjnymi jako faktycznie doświadczających depresji oraz problemu medycznego. Kluczowa w tej serii badań okazała się interakcja pomiędzy etykietą „depresja" a informacją o diagnozie lekarskiej. Wyniki wszystkich trzech eksperymentów oraz ich metaanalizy wykazały, że użycie etykiety „depresja" wzmacniało postrzeganie osoby z objawami depresyjnymi jako faktycznie doświadczającej depresji, ale tylko wtedy, gdy etykiecie towarzyszyła informacja o diagnozie lekarskiej. Okazało się również, że etykieta „depresja" osłabiała postrzeganie osoby z objawami depresyjnymi jako doświadczającej problemu medycznego nawet gdy etykiecie towarzyszyła informacja o diagnozie lekarskiej. Wyniki te były niezależne od tego, czy osoby badane same doświadczały depresji, czy też nie. Wyniki trzeciego eksperymentu sugerowały różnice w postrzeganiu w zależności od płci opisywanej osoby – efekt interakcji etykiety i diagnozy występował w przypadku osoby opisanej męskim imieniem „John", natomiast dla osoby opisanej żeńskim imieniem „Margaret" efekt etykiety był niezależny od efektu diagnozy. Wyniki metaanalizy wzmacniają tezę dotyczącą wpływu etykiety i diagnozy na postrzeganie opisywanej osoby jako faktycznie doświadczającej depresji oraz problemu medycznego.

Wyniki tych badań ilustrują dodatkową funkcję etykiety „depresja" – oprócz znaczenia dla kształtowania tożsamości oraz wpływu na postrzegane charakterystyki opisanej osoby (Dolphin & Hennessy, 2017; Ibarra-Rovillard & Kuiper, 2011; Moses, 2009), ma ona także znaczenie dla samego postrzegania symptomów jako faktycznej depresji oraz problemu medycznego. Wyniki tej serii eksperymentów mogą pomóc w wyjaśnieniu paradoksu biomedycznego ujmowania przyczyn zaburzeń zdrowia psychicznego, które prowadzi zarówno do obniżenia, jak i podwyższenia poziomu stygmatyzacji (Haslam & Kvaale, 2015). Zgodnie z wynikami zaprezentowanej serii badań, wiarygodność medycznego ujęcia depresji wzrasta tylko pod nieobecność etykiety. Związek między etykietą i informacją o diagnozie, a preferencją konkretnych wyjaśnień przyczyn zaburzeń zdrowia psychicznego oraz ich stygmatyzacją wymaga jednak dalszych badań.

Wyniki tej serii badań odzwierciedlają w pewnym stopniu, w jaki sposób termin „depresja" funkcjonuje w dyskursie publicznym – z jednej strony jako termin związany z psychopatologią, z drugiej – jako potoczne określenie gorszego samopoczucia i obniżonego nastroju (Xiao et al., 2023). Wyniki te mogą być przydatne jako przyczynek do dalszego zgłębiania różnic między naukowym a potocznym rozumieniem depresji oraz ich wpływu na gotowość do szukania pomocy. Jest to szczególnie istotne w świetle wyników najnowszych badan sugerujących, że sposób opisania depresji – jako stanu chorobowego lub funkcjonalnego – ma znaczenie nie tylko dla samostygmatyzacji i przekonań na temat depresji, ale także dla efektów leczenia (Schroder et al., 2023).

Pomimo wyraźnego wpływu etykiety „depresja" oraz informacji o diagnozie medycznej na postrzeganie opisywanej osoby jako faktycznie doświadczającej depresji i problemu medycznego, efekt płci opisanej osoby na postrzeganie doświadczania przez nią depresji pozostaje niejasny. Temat ten wydaje się istotny do dalszej eksploracji choćby ze względu na różnice w doświadczeniu i rozpoznawalności depresji u kobiet i mężczyzn (Platt et al., 2020).

Zależność dotycząca efektu własnego doświadczenia z depresją u osób badanych nie znalazła potwierdzenia w wynikach prezentowanych w rozprawie. W kolejnych badaniach warto rozważyć inny sposób pomiaru zmiennej „własne doświadczenie" – w drugim eksperymencie pierwszej serii badań wykorzystano wyłącznie dane dostępne na platformie Prolific. Pytanie, które faktycznie posłużyło do pomiaru tej zmiennej brzmiało „Czy masz depresję?", co sugeruje doświadczenie depresji wyłącznie w momencie badania, i nie uwzględnia tego, czy uczestnicy mieli doświadczenie z depresją przed badaniem. Jak wskazują badania walidacyjne skali DepSter (Kulwicka & Gasiorowska, 2023), osoby z bezpośrednim (własnym) i pośrednim (bliskiej osoby) doświadczeniem depresji różnią się w poziomem wiedzy i błędnych przekonań. Nie wiadomo także, czy depresja, do której odnosi się pytanie przesiewowe z Prolific była rozumiana przez badanych jako zdiagnozowana przez specjalistę, czy też jako autodiagnoza. W kolejnych badaniach warto będzie mierzyć tę zmienną z większą precyzją.

Druga seria jedenastu badań, w tym jednego badania eksperymentalnego, była skoncentrowana na konstrukcji i walidacji skali DepSter, mierzącej przekonania na temat depresji zgodnie z zaproponowanym nowym modelem dwuczynnikowym, uwzględniającym zarówno wiedzę opartą na naukowym rozumieniu depresji (depression literacy), jak i stereotypy oraz błędne przekonania (misconceptions) na jej temat. Badanie te obejmowały również weryfikację, czy tak rozumiane przekonania na temat depresji moderują efekt etykiety i diagnozy zaobserwowany w pierwszej serii badań. Wyniki potwierdziły, że model dwuczynnikowy skali DepSter jest lepiej dopasowany do danych niż model jednoczynnikowy, a także pokazały brak niezmienności skalarnej dla wymiaru błędnych przekonań w porównaniach między Polską, USA i Wielką Brytanią, co może sugerować kulturowy aspekt kształtowania się stereotypowych przekonań na temat depresji, i potencjalnie stanowi pewne ograniczenie metodologiczne dla porównywania poziomów tej zmiennej w różnych populacjach. Wątek ten kontynuuję w dalszych badaniach nad różnymi populacjami, także tymi spoza obszaru WEIRD (Apicella et al., 2020; Henrich et al., 2010).

Jeśli chodzi o samą ideę ujmowania przekonań na temat depresji dwuwymiarowo, a nie jak dotychczas jednowymiarowo, wyniki badań walidacyjnych oraz wynik badania eksperymentalnego zaprezentowane w drugiej serii badań uprawomocniają zaproponowany model dwuwymiarowy. Wyniki badań walidacyjnych wykazały, że oba wymiary mają odmienny wzorzec zależności ze zmiennymi demograficznymi, innymi miarami wiedzy na temat zdrowia psychicznego i depresji, uprzedzeniami wobec osób z zaburzeniami zdrowia psychicznego oraz miarami zmiennych indywidualnych takimi jak empatyczna troska, orientacja na dominację społeczną czy neurotyczność. Z kolei wyniki badania eksperymentalnego pokazały, że wiedza na temat depresji była pozytywnie związana z postrzeganiem osoby z objawami depresyjnymi jako faktycznie doświadczającej depresji oraz problemu medycznego, przy czym efekt okazał się silniejszy dla postrzegania depresji. Błędne przekonania korelowały negatywnie z postrzeganiem osoby jako doświadczającej depresji oraz problemu medycznego, przy czym efekt był silniejszy dla postrzeganego problemu medycznego.

Ograniczenia i dalsze kierunki badań

Badania zaprezentowane w rozprawie nie są wolne od ograniczeń. Pierwszym z nich jest niewielka siła omawianych efektów. Choć efekty są relatywnie słabe, replikują się w kolejnych badaniach powadzonych metodą systematycznie modyfikowanych autoreplikacji (Wojciszke, 2004). Mają także potencjalne znaczenie aplikacyjne dla komunikacji z pacjentem oraz projektowania interwencji dotyczących szeroko pojętych zagadnień związanych ze zdrowiem psychicznym (np. korzystanie z pomocy psychologicznej, edukacyjne kampanie społeczne). Innym ograniczeniem zaprezentowanych badań jest fakt, że wszystkie zostały przeprowadzone za pośrednictwem platform badawczych. Z jednej strony pozwoliło to dotrzeć do dużych i zróżnicowanych prób osób badanych, z drugiej – pozostaje pytanie o jakość danych zbieranych w ten sposób (Douglas et al., 2023). Jakkolwiek stosowałam procedury mające na celu podniesienie jakości zbieranych danych w postaci testów uwagi (Kung et al., 2018), jednak motywacja i zaangażowanie uczestników badań online mogą być niższe niż w badaniach prowadzonych w laboratorium (Brüggen et al., 2011; Clifford & Jerit, 2014). Dodatkowo, zaangażowanie osób badanych jest niższe w przypadku badań poruszających tematy wrażliwe (Roster et al., 2017). W związku z tym, w kolejnych badaniach warto byłoby zatem sprawdzić, na ile poruszany przeze mnie temat był dla badanych wrażliwy, a także interesujący lub osobiście ważny.

Podsumowanie

Przeprowadzone badania wskazują na zmianę znaczenia procesu etykietowania w kontekście depresji, pokazując nie tylko, czy etykieta „depresja" ma negatywny wpływ na postrzeganie osób nią opisanych, ale także wyjaśniając, w jaki sposób ta etykieta działa i od czego zależy jej wpływ. Wnoszą zarówno nową wiedzę teoretyczną na temat społecznego postrzegania osób z objawami depresyjnymi, jak i zwalidowane międzynarodowo narzędzia badawcze. Mogą mieć również praktyczne implikacje dla komunikacji z pacjentem oraz być wykorzystane przy projektowaniu kampanii społecznych dotyczących zdrowia psychicznego i konsekwencji behawioralnych, takich jak szukanie pomocy czy stygmatyzacja. Wątki te będą eksplorowane w kolejnych badaniach.

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Label matters: how labeling and diagnosis affect lay perception of people with depressive symptoms

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We investigated how the label “depression” and information about a medical diagnosis influence perceptions of individuals with depressive symptoms as legitimately experiencing depression and a medical condition. In three experiments, participants read a description of a person meeting Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria for major depressive episode and manipulated whether the label “depression” and the information about a professional medical diagnosis were included. Participants were more likely to perceive the person as having depression when both the label and diagnosis were present. However, paradoxically, when a diagnosis explicitly included the word “depression”, participants were less likely to view the symptoms as indicating a legitimate medical condition than when the diagnosis omitted the term. These effects were not moderated by participants’ own experience of depression. Gender effects emerged in Experiment 3: results replicated for male protagonists but differed for female protagonists, where label effects were independent of medical diagnosis information. Finally, a meta-analysis across the three experiments supported our hypothesis that the label “depression” weakened the effect of the medical diagnosis. Moreover, participants attributed a higher degree of legitimacy to a medical condition when the diagnosis was provided by a doctor, but only when this diagnosis did not include the label “depression”.

KEYWORDS

depression, labels, labeling effect, diagnosis, perception of people with depressive symptoms

Introduction

Research on labels in the context of mental health and illness has a long history. The classical labeling theory of mental illness (1), popular in the 1970s and 1980s, initially focused on the identity of individuals diagnosed with a mental disorder. It was then expanded to cover the social consequences of psychiatric diagnoses (2), leading to the extensive research on the labeling effect and its impact on social response to people with mental illness (3, 4). Although the academic community has extensively studied this topic over the years, the understanding of how psychiatric labeling affects public perception and understanding of mental disorders is still limited. Our paper addresses this gap by investigating how the label "depression" influences lay people's perception of this disorder. Specifically, we examined how this particular label and information about the medical diagnosis of depression influence public perceptions of people with depressive symptoms as legitimately experiencing depression and a medical condition.

According to the labeling theory of mental illness (1), labeling a person as "mentally ill" leads to two main outcomes. First, other people react to the labeled person according to the prevailing social concept of mental illness. Second, the labeled person adopts the role of "mentally ill" and develops a relatively stable identity around this specific role. This approach has been widely criticized for underestimating other identity-related consequences of the labeling process (5, 6). The result of the massive criticism was the development of the so-called modified labeling theory of mental illness (7), which, in contrast to the classical theory, focuses on the assumption that psychiatric labeling, defined as the use of psychiatric diagnoses when referring to or describing a person, has a profound negative impact on the lives of individuals diagnosed with mental disorders and leads to stigmatizing attitudes and the desire for greater social distance toward them (e.g., 8–10). In the classical study on the effect of labeling on the attribution of traits, people labeled as "psychiatric patients" were perceived as less sympathetic, less responsible, and less clear-thinking than people labeled as "medical patients" (11). The results of another study demonstrated that the additional single piece of information that someone is diagnosed with a "psychiatric condition" increased the declared social distance toward that person (12). This effect was also observed in medical students following their participation in a psychiatry course (13). Another study showed that participants who read a short description of a person with the additional information that this person had been diagnosed with "schizophrenia" perceived this person as more aggressive and less trustworthy and felt more fear of this person compared with participants who read the same description but without the label (14). Furthermore, labeling a person as "depressed", compared to when the label was not provided, led to more negative reactions to that person's comments (15) and lower levels of trust demonstrated toward those who are labeled (16). The power of the label on the perception of others was demonstrated in a recent study (17), where stigmatizing attitudes and desire to social distance toward a labeled person persisted even when the label was retracted.

Despite the considerable attention that the academic community has devoted over the decades to the question of how diagnostic labeling affects social responses to people diagnosed with mental disorders (3), little is known about how psychiatric labeling affects lay people's perception and understanding of mental disorders. In one of the classical studies on the effect of labeling on the ascribed psychiatric diagnosis (18), psychiatrists and abnormal psychology students were asked to watch videotaped standardized psychiatric interviews with a mental health hospital patient and a paid participant. Some participants were told that the two interviews were conducted with a psychiatric patient, while others were told that both interviews were conducted with a student. Participants then briefly described the interviewee and rated their current level of illness or impairment. The term "mental patient" resulted in the students—but not the psychiatrists—indicating a higher level of diagnosed mental illness if the interviewee was a mentally ill person. If the respondent was a paid participant, the label significantly influenced both the students' and professionals' assessments.

Similar results were obtained in a study on the effect of labeling on the perceived "psychological incapacitation" of students (19). In this experiment, teachers were presented with the description of a hypothetical student together with information about the diagnostic labels, behavioral description of the student, or diagnostic label along with the behavioral descriptions. Perceived "psychological incapacitation" was significantly higher when a label was present than when it was not, regardless of whether behavioral descriptions were provided.

In another classic experiment, university students were presented with two recordings of a conversation between four people and were asked to evaluate one of them (20). Depending on the experimental condition, participants rated a person who was acting either casually or in a way that could be interpreted as disturbed. In addition, participants were informed that this person was described as "severely neurotic" by professionals, or they did not receive such information. The results of this experiment confirmed the labeling effect: participants attributed higher levels of psychological disorder to the protagonist when the label was present than when the label was not mentioned, suggesting that the label may affect not only the perception of the labeled person but also the perception of the severity of symptoms or mental health condition in general.

A recent study by Altmann et al. (21) demonstrated that the use of the "major depressive disorder" label increased the participants' perception that people who experience minor problems require professional treatment and also increased the perceived persistency of the condition compared to "general anxiety disorder" and "bipolar disorder" labels. This is a rare example of studies investigating the effect of the label not only on the perception and attitudes toward a labeled person but also on the lay perception of mental health conditions.

Although in the public discourse the label "depression" is used as a term for various conditions—from everyday low mood to various psychiatric disorders (22, 23)—it carries specific clinical implications. A recent large corpus study of historical semantic change demonstrated the tendency to pathologize the concept of "depression". The term is increasingly located in semantic contexts involving symptoms, disorder, and diagnosis alongside "anxiety" (24). Despite this pathologization trend, "depressive neurosis" remains one of the disorders of the least prestige as perceived by medical professionals (25). This, in turn, may result in underestimating the seriousness of the condition (26, 27).

Given that depression is the leading cause of disability worldwide and is one of the most common mental disorders globally (28, 29), we believe that investigating how the label "depression" itself affects lay recognition of depressive symptoms and how it influences the attribution of depressive symptoms as a mental disorder and medical condition is especially important.

Overview of the studies

In three experiments, we presented participants with a vignette of a person experiencing symptoms of depression according to diagnostic criteria and manipulated whether this description was accompanied by 1) the label "depression" and 2) information about the medical diagnosis. We hypothesized that a protagonist would be perceived as having depression to a greater extent when the label "depression" is provided than when it is not, and that this effect would be stronger when accompanied by information about the medical diagnosis but weaker when there is no information about the medical diagnosis. We also investigated whether the label and information about medical diagnosis would affect the perception of the protagonist as having a medical condition.

In Experiment 1 (*N* = 684), we found that participants perceived the protagonist as having depression to a greater extent when the label was accompanied by information that depression had been diagnosed by a doctor, but not when there was no information about the diagnosis. The use of the label "depression" reduced the perception of the protagonist as experiencing a medical condition, even when the disorder was diagnosed by a doctor. In preregistered Experiment 2 (*N* = 1,526), we replicated these findings and determined that they were not moderated by participants' own experience of depression. In Experiment 3 (*N* = 1,554), we investigated whether the results differed by gender of the described person (Margaret vs. John). We replicated our results for the male protagonist only. For the female protagonists, the effect of the label was independent of the effect of the medical diagnosis. A meta-analysis on Experiments 1–3 supported our hypothesis that the label "depression" weakened the effect of the medical diagnosis. Specifically, participants attributed a greater degree of legitimacy to the medical condition when the diagnosis was provided by a doctor, but only when this diagnosis did not include the label "depression".

Experiment 1

In this experiment, we provided participants with the description of the protagonist who experiences symptoms of a major depressive episode according to DSM-5 (30), yet formulated in everyday language, not in the so-called "voice of medicine" (31). Moreover, we manipulated whether this description was accompanied by the label "depression" and by information that a doctor diagnosed the protagonist's condition. We examined whether these two factors would influence participants' perception of how probable it is that the described person is experiencing depression and is experiencing a medical condition. We hypothesized that (H1) participants in the "depression" label condition would assess the probability that the person described in the vignette is experiencing depression as higher than participants in the no-label condition and that (H2) this effect would be stronger for participants in the medical diagnosis condition compared to the no diagnosis condition. Moreover, we expected that (H3) participants in the medical diagnosis condition would assess the probability that the person described in the vignette is experiencing a medical condition as higher than participants in the no diagnosis condition. As perceptions of the person as having depression and experiencing a medical condition were correlated, we controlled for the other dimension of perception in the analysis to obtain the effects specific to our experimental manipulations on the perception of depression and perception of actual medical condition.

Materials and methods

We estimated the sample size using an *a prioria priori* power analysis with G*Power (32). Based on the previous studies on labeling effect (14), we assumed an effect of Cohen's $d = 0.3$, an expected power $1 - \beta = .80$, and a significance level $\alpha = .05$. Therefore, we aimed to invite 176 participants for each of the four experimental conditions in a 2 (label vs. no label) × 2 (diagnosis vs. no diagnosis) between-subjects experimental design.

We recruited *N* = 704 U.S. Prolific Academic users to participate in this study for £0.50. We excluded 20 participants based on failed attention checks ("Enter today's date in the day-month-year format" and "Please answer 'Definitely willing' in this question"). The final sample included *N* = 684 participants (338 women, 341 men, and 5 with no information) aged 18–85 years (*M* = 35.25, *SD* = 12.91).

After providing informed consent and demographic data, participants were assigned to one of the four conditions in a 2 (label vs. no label) × 2 (information on the medical diagnosis vs. no information on diagnosis) between-subjects design. They were asked to read a short description of a person with different final passages, depending on the condition:

"Imagine that some time ago, you met at a party someone named Alex. You found Alex interesting, and you had a good time talking to each other. You found out that Alex has a full-time job that she likes and is in a happy long-term relationship. A few weeks later, you called Alex to invite them for lunch. Alex kindly refused, saying that she had recently been in a worse mood than usual. She also mentioned that she doesn't sleep well and is tired for most of the day. Later she also told you that somehow, she is not so satisfied with her job anymore, even if nothing at work had changed. She added that she has problems with concentration and cannot even read books, which used to be her biggest hobby. Even worse, she claimed that her relationship was not so satisfying anymore. She noticed that she is constantly irritated with her partner, feeling guilty about it."

The final passage was as follows: in the control condition (*n* = 176), "Alex wondered what was going on with her"; in the "label" condition (*n* = 169), "Alex wondered whether she might have depression"; in the

TABLE 1 Analysis of covariance for the effect of label and medical diagnosis on ascribed depression, controlling for ascribed medical condition (Experiment 1).

Predictor	*F* (1, 679)	*p*	η^2_p
Ascribed medical condition	184.93	<.001	.214
Diagnosis	11.4	<.001	.017
Label	0.62	.432	.001
Diagnosis × Label	13.75	<.001	.020

"medical diagnosis" condition (*n* = 169), "Alex went to see a doctor, and the doctor diagnosed that the way she feels is due to the medical condition"; and in the "label + medical diagnosis" condition (*n* = 170), "Alex went to see a doctor, and the doctor diagnosed that the way she feels is due to depression".

Then, participants were asked to answer two questions— "In your opinion, how probable it is that Alex might have depression?" (*M* = 78.06, *SD* = 18.72) and "In your opinion, how probable it is that Alex might have some medical condition?" (*M* = 69.48, *SD* = 21.61)— using a scale from 0 = "Very improbable" to 100 = "Very probable". These questions were the two dependent variables.

Analytical approach

We conducted two analyses of covariance (ANCOVAs) in the 2 (label vs. no label) × 2 (information on the medical diagnosis vs. no information on diagnosis) factorial design. The first ANCOVA examined the perception of Alex as having depression as the dependent variable, with the perception of Alex as having a medical condition as a covariate. The second ANCOVA examined the perception of Alex as having a medical condition as the dependent variable, with the perception of Alex as having depression as a covariate.

Results

In the first analysis, the associations between the two dimensions of perception were significant. The effect of diagnosis remained significant, the same as the interaction between the two factors, while the effect of label was not significant (see Table 1 and Figure 1).

A further decomposition of the two-way interaction with the Bonferroni correction revealed that, controlling for the perception of the protagonist as having a medical condition, participants who did not receive the information about the diagnosis assessed the probability of Alex as having depression as similar independently of whether the label was provided (*M* = 74.22, *SE* = 1.18) or not (*M* = 77.72, *SE* = 1.22), *t*(679) = 2.07, *p* = .232, Cohen's *d* = 0.22. In turn, participants who received the information about the diagnosis assessed the probability of Alex as having depression as higher when the label was provided (*M* = 82.84, *SE* = 1.20) than when it was not (*M* = 77.44, *SE* = 1.23), *t*(679) = −3.14, *p* = .010, Cohen's *d* = −0.34. Alternative decomposition of the interaction revealed that within the no-label condition, participants who did not receive the information about the diagnosis assessed the probability of Alex as having depression as lower (*M* = 76.26, *SE* = 1.43) than those who received the information about the diagnosis (*M* = 81.07, *SE* = 1.26), *t*(684) = −2.53, *p* = .070, Cohen's *d* = −0.27. In turn, within the label condition, participants who did not receive the information about the diagnosis assessed the probability of Alex as having depression

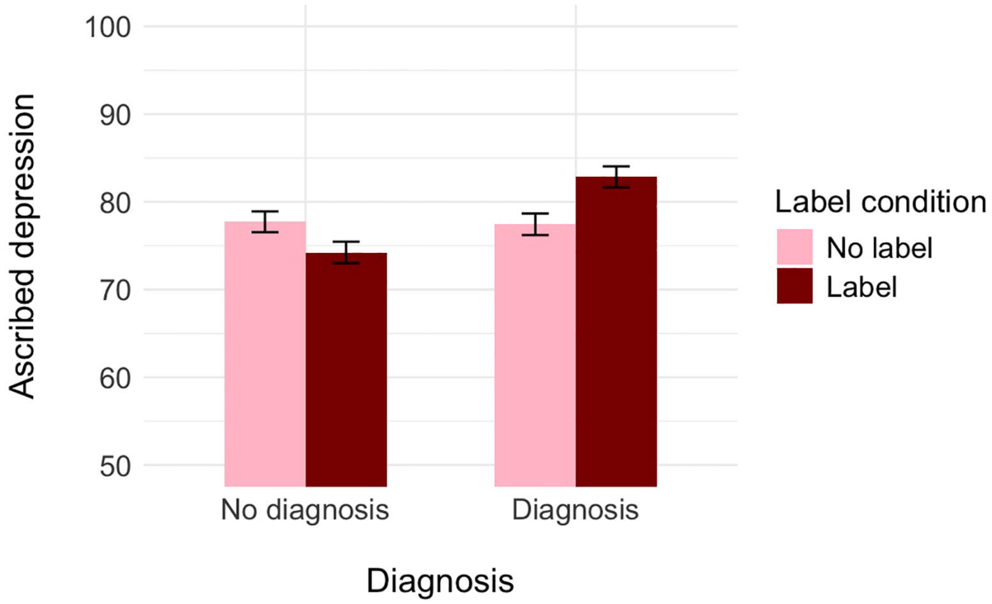

FIGURE 1
The effect of label and medical diagnosis on ascribed depression, controlling for the ascribed medical condition (Experiment 1).

TABLE 2 The effect of label and medical diagnosis on ascribed medical condition, controlling for ascribed depression (Experiment 1).

Predictor	*F* (1, 679)	*p*	η^{2p}
Ascribed depression	184.93	<.001	.214
Diagnosis	16.57	<.001	.024
Label	11.44	<.001	.017
Diagnosis × Label	9.82	.002	.014

as lower (*M* = 71.64, *SE* = 1.40) than those participants who received the information about both the label and the diagnosis (*M* = 83.33, *SE* = 1.26), *t*(684) = −6.10, *p* <.001, Cohen's *d* = −0.66.

In the second analysis, the association between the two dimensions of perception was significant. As expected, the effect of diagnosis was significant. Additionally, we found a significant effect of label and a significant interaction between label and diagnosis (see Table 2 and Figure 2).

A further decomposition of this interaction with the Bonferroni correction revealed that, controlling for the perception of the protagonist as having depression, participants who did not receive the information about the diagnosis assessed the probability of Alex as having a medical condition as similar independently of whether the label was provided (*M* = 66.39, *SE* = 1.44) or not (*M* = 66.72, *SE* = 1.39), *t*(679) = 0.17, *p* = .999, Cohen's *d* = 0.02. In turn, participants who received the information about the diagnosis assessed the probability of Alex as having a medical condition as higher when the label was not provided (*M* = 77.07, *SE* = 1.43) than when it was (*M* = 76.85, *SE* = 1.43), *t*(679) = 4.59, *p* <.001, Cohen's *d* = 0.50. Alternative decomposition of the interaction revealed that within the no-label condition, participants who did not receive the information about the diagnosis assessed the probability of Alex as having a medical condition as lower (*M* = 66.72, *SE* = 1.39) than those who received the information about the diagnosis (*M* = 77.07, *SE* = 1.43), *t*(684) = −5.18, *p* <.001, Cohen's *d* = −0.56. In turn, within the label condition, participants who did not receive the information about the diagnosis assessed the probability of Alex as having a medical condition (*M* = 66.39, *SE* = 1.44) as similar to participants who received the information about both the label and the diagnosis (*M* = 67.85, *SE* = 1.43), *t*(684) = −0.71, *p* = .999, Cohen's *d* = −0.08.

In sum, we found that the effect of the label on the perception that a protagonist has depression is significant when a medical diagnosis accompanies it, but not when there is no diagnosis. These results provide initial evidence that using the word "depression" does not legitimize the condition in the perception of lay people, and to provide such legitimization, one must be diagnosed by a doctor. Moreover, we also found that when a person is diagnosed by a doctor, lay people perceive the condition as less legitimate when the label "depression" appears than when the label is not indicated. In fact, when the label was mentioned along with the information about medical diagnosis, the perceived legitimacy of the condition was similar to the one without any diagnosis— for lay people, the single label "depression" makes the medical diagnosis less relevant.

Experiment 2

In Experiment 1, although we demonstrated that the effect of the label on the perception that a protagonist has depression is stronger when a medical diagnosis accompanies it than when there is no diagnosis, we surprisingly did not find the main effect of the

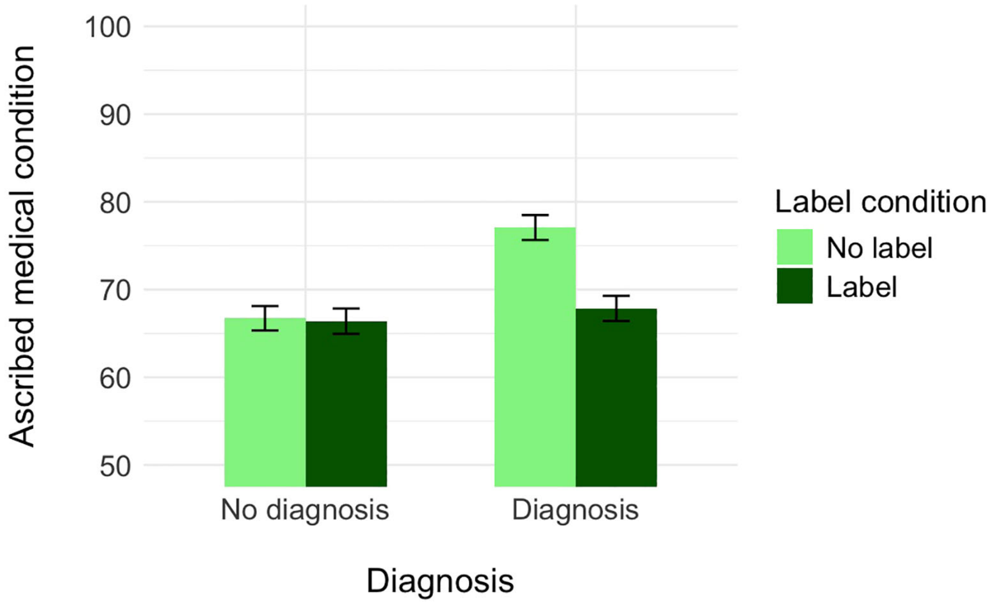

FIGURE 2
The effect of label and medical diagnosis on ascribed medical condition, controlling for the ascribed depression (Experiment 1).

label. One of the reasons for this result may be the relatively low quality of the measures, as we used only single items when measuring our dependent variables. Second, depressed and never-depressed people may have different illness representations of depression (33). Therefore, in this experiment, we aimed to replicate the results of the previous study, making two significant alterations. First, we asked our participants more detailed questions about the protagonist's condition and calculated composite scores for the two variables. Second, we invited participants who, in the pre-screening questions, indicated that they experienced depression before or during the moment of the study vs. those who did not experience any depression episodes. We again manipulated the use of the "depression" label and the information about medical diagnosis. We used the same description of Alex as in the previous study. We expected that controlling for the perception of Alex as having a medical condition, (H1) participants in the "depression" label condition would assess the probability that the person described in the vignette has depression as higher than participants in the no-label (description only) condition, and (H2) this effect would be stronger for participants in the medical diagnosis condition compared to those in the no diagnosis condition. Additionally, we expected that (H3) these effects would be moderated by participants' own experience with depression, such that it would be stronger for participants who experienced depression themselves than for participants who did not experience depression. We preregistered these hypotheses, sample size, exclusion criteria, and analyses at https://aspredicted.org/N2N_B2R. We also analyzed the effect of label, diagnosis, and own experience with depression on the perception of Alex as having a medical condition, controlling for the perception of her having depression for exploratory purposes (this analysis has not been preregistered).

Materials and methods

We estimated the sample size using an *a prioria priori* power analysis with G*Power (32). Based on the results of our previous study, assuming an interaction effect of $\eta^2 = .01$, an expected power of $1 - \beta = .80$, and a significance level of $\alpha = .05$, we found that a sample size required to detect such an effect should include 195 per experimental condition. Therefore, we aimed to recruit 195 participants for each of the four experimental conditions in a 2 (label vs. no label) × 2 (diagnosis vs. no diagnosis) × 2 (experience of depression vs. no experience of depression) experimental design, resulting in a total of 1,560 participants. Factoring for potential attrition due to failed attention checks, we recruited $N = 1{,}624$ U.S. Prolific Academic users to participate in this study in exchange for £0.75. We excluded 98 participants based on their responses to two questions that served as the attention checks, the same as in Experiment 1. The final sample included $N = 1{,}526$ participants (753 women, 753 men, and 20 with no information) aged 18–93 years ($M = 42.19$, $SD = 14.01$).

This study was conducted simultaneously on two separate groups of participants: participants who were previously or currently experiencing depression ($N = 766$) and participants who had no experience of depression ($N = 760$). After giving informed consent and providing demographic information, participants in each group were assigned to one of four conditions in a 2 (label vs. no label) × 2 (medical diagnosis information vs. no diagnosis information) between-subjects design. Again, participants were asked to read a short description of a person with different final passages depending on the condition, the same as in Experiment 1. The final passage was as follows: in the control condition ($n = 376$), "Alex wondered what was going on with her"; in the "label" condition ($n = 383$), "Alex wondered whether she might have depression"; in the "medical diagnosis" condition ($n = 387$), "Alex went to see a doctor, and the doctor diagnosed that the way she feels is due to the medical condition"; and in the "label + medical diagnosis" condition ($n = 380$), "Alex went to see a doctor, and the doctor diagnosed that the way she feels is due to depression".

In the next step, participants were asked to answer eight questions, four of which measured the perception of the protagonist as having depression (e.g., "In your opinion, how probable it is that Alex might have depression", $M = 78.32$, $SD = 16.41$, $\alpha = .86$), and the remaining four measured the perception of the protagonist as having a medical condition (e.g., "In your opinion, how probable it is that Alex might have some medical condition", $M = 70.20$, $SD = 20.83$, $\alpha = .92$), using a scale from 0 = "Very improbable" to 100 = "Very probable" (see preregistration for full list of items). These two sets of questions were averaged to serve as the two dependent variables.

Analytical approach

We conducted two ANCOVAs in the 2 (label vs. no label) × 2 (diagnosis vs. no diagnosis) × 2 (experience of depression vs. no experience of depression) factorial design. The first ANCOVA (preregistered) examined the perception of Alex as having depression as the dependent variable, with the perception of Alex as having a medical condition as a covariate. The second ANCOVA (not preregistered) examined the perception of Alex as having a medical condition as the dependent variable, with the perception of Alex as having depression as a covariate.

Results

In the first analysis, the association between the two dimensions of perception was significant (see Table 3 and Figure 3). The effect of diagnosis was non-significant, the same as the effect of label. The effect of participants' experience with depression was significant. The only significant interaction was between the two manipulations (diagnosis × label), matching the results of Experiment 1.

A further decomposition of this interaction with the Bonferroni correction revealed that, controlling for the perception of Alex as having a medical condition, participants who did not receive the information about the diagnosis assessed the probability of her having depression as similar independently of whether the label was

TABLE 3 Analysis of covariance for the effect of label, medical diagnosis, and experience with depression on ascribed depression, controlling for ascribed medical condition (Experiment 2).

Predictor	*F* (1, 1,517)	*p*	η^{2p}
Ascribed medical condition	1,195.03	<.001	.441
Diagnosis	0.04	.833	.001
Label	0.43	.510	.001
Diagnosis × Label	11.96	<.001	.008
Depression	31.12	<.001	.020
Diagnosis × Depression	0.145	.703	.001
Label × Depression	1.36	.244	.001
Diagnosis × Label × Depression	0.01	.945	.001

provided (*M* = 77.38, *SE* = 0.62) or not (*M* = 79.13, *SE* = 0.63), *t*(1517) = 1.99, *p* = .284, Cohen's *d* = 0.14. In turn, participants who received the information about the diagnosis assessed the probability of Alex as having depression as higher when the label was provided (*M* = 79.67, *SE* = 0.62) than when it was not (*M* = 77.10, *SE* = 1.23), *t*(1517) = −2.57, *p* = .021, Cohen's *d* = −0.21. Alternative decomposition of the interaction revealed that within the no-label condition, participants assessed the probability of Alex as having depression as similar independently of whether they received the information about the diagnosis or not, *t*(1517) = 2.26, *p* = .144, Cohen's *d* = 0.17. In turn, within the label condition, participants who did not receive the information about the diagnosis assessed the probability of Alex as having depression as lower than those participants who received the information about both the label and the diagnosis, *t*(1517) = −2.61, *p* = .055, Cohen's *d* = −0.19.

In the second analysis, the association between the two dimensions of perception was significant (see Table 2). The effect of diagnosis was significant, while the effect of label was insignificant. The effect of participants' experience with depression was significant, such that those who did not previously experience depression ascribed a higher level of depression (*M* = 71.40, *SE* = 0.56) than those who experienced depression (*M* = 68.94, *SE* = 0.55). The only significant interaction was that between the two manipulations (diagnosis × label), matching the results of Experiment 1 (see Table 4 and Figure 4).

A further decomposition of this interaction with the Bonferroni correction revealed that, controlling for the perception of the protagonist as having a medical condition, participants who did not receive the information about the diagnosis assessed the probability of Alex as having depression as higher when the label was provided (*M* = 69.97, *SE* = 0.78) than when it was not (*M* = 66.29, *SE* = 0.79), *t*(1517) = −3.33, *p* = .005, Cohen's *d* = −0.24. In turn, participants who received the information about the diagnosis assessed the probability of Alex as having a medical condition as higher whether the label was not provided (*M* = 74.79, *SE* = 0.78) than when it was provided (*M* = 69.63, *SE* = 0.78), *t*(1517) = 4.68, *p* <.001, Cohen's *d* = 0.34. Alternative decomposition of the interaction revealed that within the no-label condition, participants who did not receive the information about the diagnosis assessed the probability of Alex as having a medical condition as lower (*M* = 66.29, *SE* = 0.79) than those who received the information about the diagnosis (*M* = 74.79, *SE* = 0.78), *t*(1517) = −7.66, *p* <.001, Cohen's *d* = −0.56. In contrast, within the label condition, participants who did not receive the information about the diagnosis assessed the probability of Alex as having a medical condition as slightly higher (*M* = 69.97, *SE* = 0.78) than those participants who received

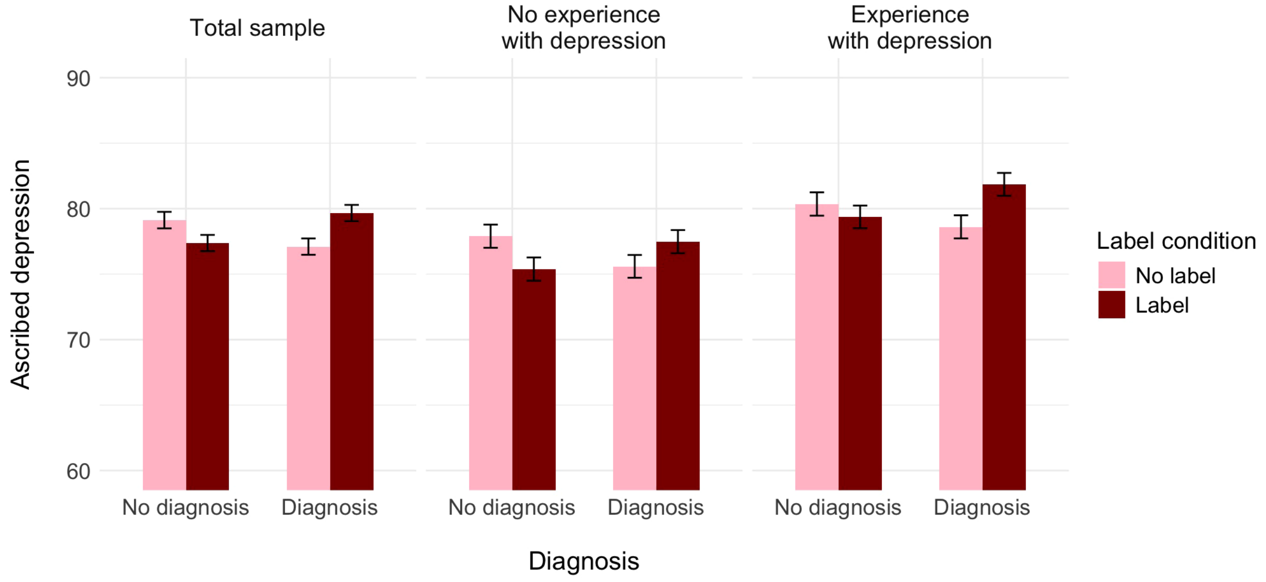

FIGURE 3
The effect of label, medical diagnosis, and experience with depression on ascribed depression, controlling for the ascribed medical condition (Experiment 2).

TABLE 4 The effect of label, medical diagnosis, and experience with depression on ascribed medical condition, controlling for ascribed depression (Experiment 2).

Predictor	*F* (1, 1,517)	*p*	η^{2p}
Ascribed depression	1,195.03	<.001	.441
Diagnosis	26.84	<.001	.017
Label	0.89	.346	.001
Diagnosis × Label	32.03	<.001	.021
Depression	9.83	.002	.006
Depression × Diagnosis	0.01	.938	.001
Depression × Label	0.01	.947	.001
Depression × Diagnosis × Label	0.57	.450	.001

theinformation about both the label and the diagnosis (*M* = 69.63, *SE* = 0.78), *t*(1517) = 0.31, *p* = .999, Cohen's *d* = 0.02.

In sum, Experiment 2 replicated our findings from Experiment 1. Again, we found that the effect of the label on the perception that a protagonist has depression is significant when a medical diagnosis accompanies it, but not when there is no diagnosis. Furthermore, unlike what we expected, we did not find moderation by participants' personal experience with depression episodes: the interaction between the label and medical diagnosis seems to be independent of whether participants have such experience.

As in Experiment 1, we additionally found that when a person is diagnosed by a doctor, she/he is perceived as experiencing an actual medical condition to a lower extent when this diagnosis regards depression than when depression is not indicated. Moreover, these effects were also independent of whether the participants had their own experience of depression or not.

Experiment 3

After demonstrating the effects of label and diagnosis with U.S. participants in Experiments 1 and 2, we conducted a preregistered Experiment 3 to replicate our findings in the UK. The USA and the UK differ substantially in terms of mental health policies and accessibility to mental health care (34): mental health prevention programs are more effective in the UK than in the USA, and also, the accessibility of professional mental health care as well as the public awareness of mental health issues is greater in the UK than in the USA (35, 36). Therefore, replicating our effects of interest in the UK would be a strong robustness check.

Moreover, one shortcoming of these studies may be that the protagonist of the scenario was presented as a woman, and although we used a rather generic name, "Alex", it is possible that participants may have perceived Alex as a woman. As depression is way more common in women than in men (37) and the gender gap in depression is undisputed (38, 39), this framing may have affected our results. Therefore, in Experiment 3, we explicitly manipulated the gender of the person described in the scenario using names (John vs. Margaret) and gendered pronouns. Finally, although our previous experiments included attention checks, they tested general attention rather than checking whether our participants had read and remembered the scenario about Alex. Therefore, we applied a more specific comprehension check, comprising three questions about the content of the scenario, and we informed our participants that we would pay only those who answered all questions correctly.

In sum, we expected a significant interaction between label depression and information about medical diagnosis such that (H1) when information about medical diagnosis is provided, a protagonist would be perceived as having depression to a greater extent in the label condition than in the no-label condition, but

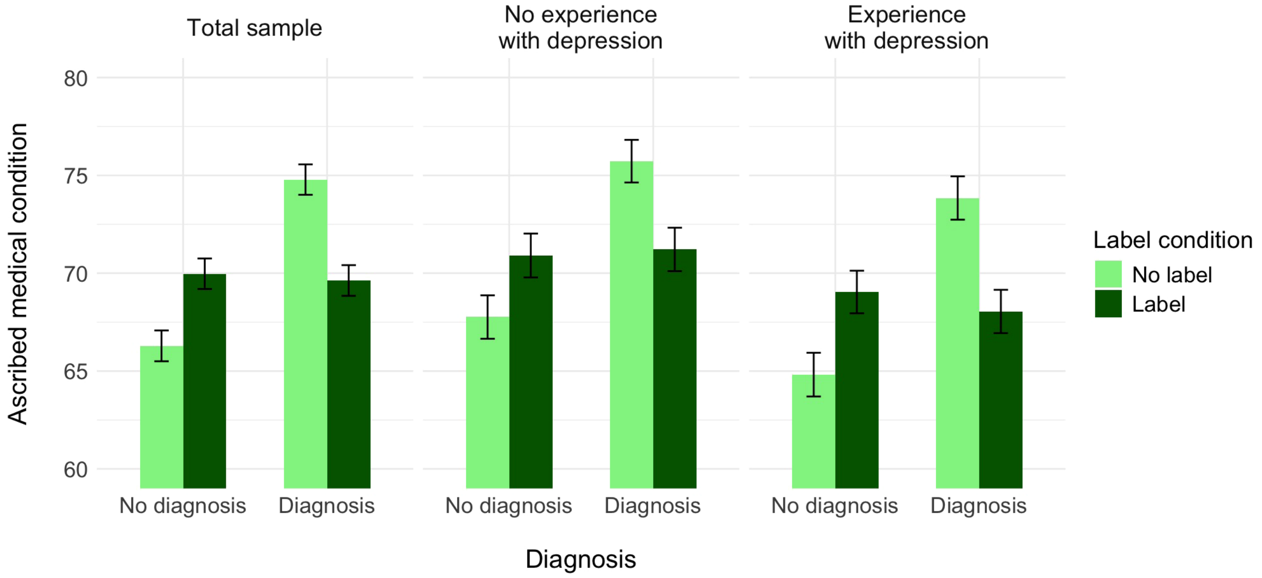

FIGURE 4
The effect of label, medical diagnosis, and experience with depression on ascribed medical condition, controlling for the ascribed depression (Experiment 2).

(H2) this effect would be weaker or even insignificant when no information about medical diagnosis is provided. We did not have specific predictions concerning the main effects of diagnosis and label manipulations. We also planned to test whether the abovementioned effect differs across the protagonist's gender, but we did not have specific expectations concerning the moderating effects of gender. We preregistered these study hypotheses, design, analysis plan, sample size, and data exclusions on https://aspredicted.org/5X2_4LP. We also investigated the effect of label, diagnosis, and protagonist's gender on the perception of the protagonist as having a medical condition, controlling for the perception of her having depression for exploratory purposes (this analysis has not been preregistered).

Materials and methods

We estimated the sample size using an *a prioria priori* power analysis with the G*Power software (32), assuming an interaction effect of $\eta^2 = .01$, a power of $1 - \beta = .80$, and $\alpha = .05$. Based on this analysis, we assumed to have 195 participants for each experimental condition, which is a total number of 1,560 participants in our experimental design. We recruited *N* = 1,594 Prolific Academic users from the UK to participate in this study in exchange for £0.45. We excluded 20 participants based on their responses to comprehension checks. The final sample included *N* = 1,562 participants (775 women, 779 men, and 8 with no information) aged 18–83 years (*M* = 41.88, *SD* = 12.91), and four participants did not provide information about their age.

After giving informed consent and providing demographic information, participants were assigned to one of eight conditions in a 2 (label vs. no label) × 2 (medical diagnosis information vs. no diagnosis information) × 2 (man vs. woman) between-subjects design. In all conditions, they were asked to read a short description of a person (John or Margaret) with different final passages, depending on the condition, as in Experiments 1 and 2. The final passage again differed depending on the experimental conditions.

In the next step, participants were asked to answer the same eight questions that were used to measure our dependent variables in Experiment 2, that is, perception of the John/Margaret as having depression (*M* = 74.63, *SD* = 15.49, $\alpha = .81$) and as having a medical condition (*M* = 70.10, *SD* = 18.58, $\alpha = .90$), using a scale from 0 = "Very improbable" to 100 = "Very probable". Finally, participants were asked to answer three questions on the content of the scenario, with four answers each (only one answer was correct).

Analytical approach

We conducted two ANCOVAs in the 2 (label vs. no label) × 2 (diagnosis vs. no diagnosis) × 2 (John vs. Margaret) factorial design. The first ANCOVA (preregistered) examined the perception of John/Margaret as having depression as the dependent variable, with the perception of John/Margaret as having a medical condition as a covariate. The second ANCOVA (not preregistered) examined the perception of John/Margaret as having a medical condition as the dependent variable, with the perception of John/Margaret as having depression as a covariate.

Results

In the first analysis, the association between the two dimensions of perception was significant. The main effect of the label was significant, while the main effect of diagnosis was not. The effect of the protagonist's gender was significant, such that experiencing the same symptoms, John was seen as having depression to a higher extent than Margaret. Most importantly, in line with our preregistered hypothesis, the interaction between information about medical diagnosis and the label was significant. Additionally, we found a significant three-way interaction between label, medical diagnosis, and gender (see Table 5 and Figure 5).

A further decomposition of the two-way interaction between label and diagnosis with the Bonferroni correction again revealed that, controlling for the perception of the protagonist as having a medical condition, participants who did not receive the information about the diagnosis assessed the probability of this person having depression as similar independently of whether the label was provided (*M* = 74.11, *SE* = 0.63) or not (*M* = 73.81, *SE* = 0.60), *t* (1533) = −0.35, *p* = .999, Cohen's *d* = −0.03. In turn, participants who received the information about the diagnosis assessed the probability of this person as having depression as higher when the label was provided (*M* = 76.90, *SE* = 0.60) than when it was not (*M* = 73.65, *SE* = 0.65), *t*(1533) = −3.68, *p* = .001, Cohen's *d* = −0.27. Alternative decomposition of the interaction revealed that within the no-label condition, participants assessed the probability of John/Margaret having depression as similar independently of whether they received the information about the diagnosis or not, *t*(1533) = 0.18, *p* = .999, Cohen's *d* = 0.01. In turn, within the label condition, participants who did not receive the information about the diagnosis assessed the probability of John/Margaret as having depression as lower than those participants who received the information about the label together with the information about the diagnosis, *t*(1533) = −3.20, *p* = .008, Cohen's *d* = −0.23.

Additionally, we decomposed the three-way interaction that we preregistered for exploratory reasons, investigating whether, controlling for the perception of the protagonist as having a medical condition, the effects of the label and medical diagnosis depend on the protagonist's gender. Unlike in Experiments 1 and 2, when the person described in the scenario was a woman, we found a significant effect of the label, such that when Margaret used the word "depression", participants were more prone to see that she has depression (*M* = 74.65, *SE* = 0.65) than when she did not use this word (*M* = 72.10, *SE* = 0.66). The effect of diagnosis was not significant, the same as the interaction between the two manipulations (see Table 5 and Figure 5).

In contrast, when a person in the scenario was described as a man named John, we found a significant interaction between label

TABLE 5 Analysis of covariance for the effect of label, medical diagnosis, and gender on ascribed depression, controlling for ascribed medical condition (Experiment 3).

Predictor	Total sample			Margaret			John		
	F (1, 1,553)	*p*	η^{2p}	*F* (1, 778)	*p*	η^{2p}	*F* (1, 774)	*p*	η^{2p}
Ascribed medical condition	888.13	<.001	.364	489.67	<.001	.386	399.73	<.001	.341
Label	8.30	.004	.005	7.88	.005	.010	1.37	.242	.002
Diagnosis	4.40	.036	.003	0.91	.340	.001	5.13	.024	.007
Label × Diagnosis	5.70	.017	.004	0.01	.948	.001	14.39	<.001	.002
Gender	14.14	<.001	.009						
Gender × Label	1.43	.232	.001						
Gender × Diagnosis	0.14	.713	.001						
Gender × Label × Diagnosis	7.15	.008	.005						

Gender = Protagonist's gender (John vs. Margaret).

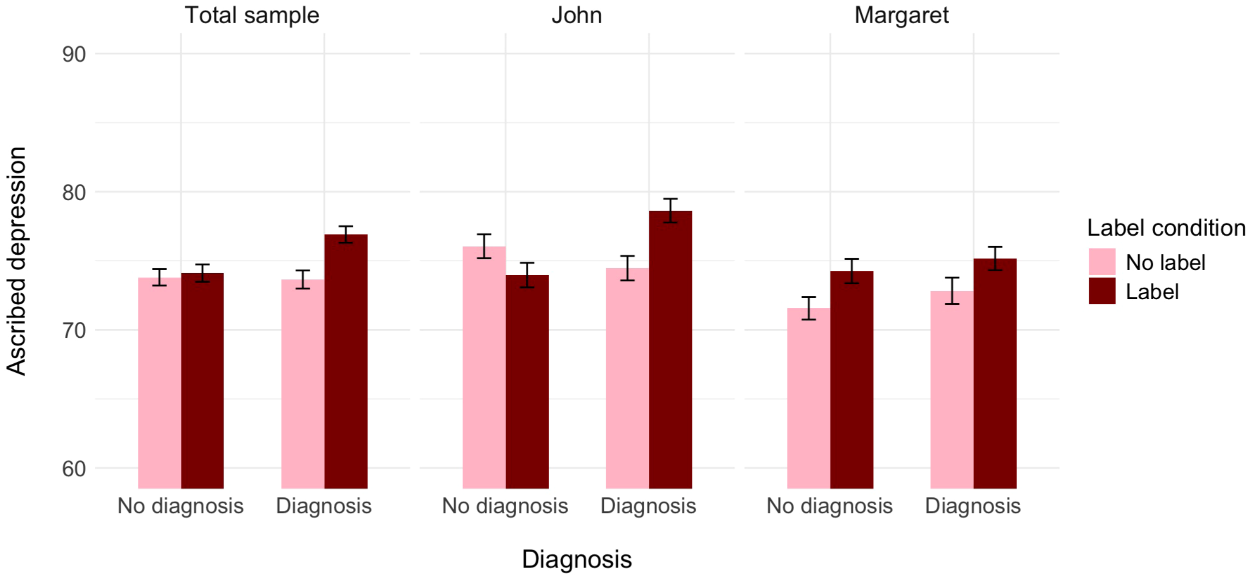

FIGURE 5
The effect of label, medical diagnosis, and protagonist's gender on ascribed depression, controlling for the ascribed medical condition (Experiment 3).

and diagnosis, accompanied by a significant main effect of diagnosis (see Table 5 and Figure 5). A further decomposition of this interaction with the Bonferroni correction revealed that, controlling for the perception of John as having a medical condition, participants who did not receive the information about the diagnosis assessed the probability of him having depression as similar independently of whether the label was provided (*M* = 74.81, *SE* = 0.86) or not (*M* = 75.53, *SE* = 0.83), *t*(774) = 1.84, *p* = .396, Cohen's *d* = 0.19. In turn, participants who received the information about the diagnosis assessed the probability of John as having depression as higher when the label was provided (*M* = 78.22, *SE* = 0.84) than when it was not (*M* = 74.60, *SE* = 0.84), *t*(774) = −3.53, *p* = .003, Cohen's *d* = −0.36. Alternative decomposition of the interaction revealed that within the no-label condition, participants assessed the probability of John as having depression as similar independently of whether they received the information about the diagnosis or not, *t*(774) = 1.03, *p* = .999, Cohen's *d* = 0.11. In turn, within the label condition, participants who did not receive the information about the diagnosis assessed the probability of John as having depression as lower than those participants who received the information about both the label and the diagnosis, *t*(774) = −4.28, *p* <.001, Cohen's *d* = −0.44.

In the second analysis, the association between the two dimensions of perception was significant. The main effect of the label was significant, the same as the main effect of diagnosis. The effect of the protagonist's gender was weak but significant, such that, experiencing the same symptoms, Margaret was seen as having a medical condition to a higher extent than John. Again, the

TABLE 6 Analysis of covariance for the effect of label, medical diagnosis, and gender on ascribed medical condition, controlling for ascribed depression (Experiment 3).

Predictor	Total sample		
	F (1, 1,553)	*p*	η^{2p}
Ascribed depression	888.13	<.001	.364
Label	9.40	.002	.006
Diagnosis	16.18	<.001	.010
Label × Diagnosis	7.18	.007	.005
Gender	5.01	.025	.003
Gender × Label	0.38	.537	.001
Gender × Diagnosis	1.31	.252	.001
Gender × Label × Diagnosis	0.31	.575	.001

Gender = Protagonist's gender (John vs. Margaret).

interaction between information about medical diagnosis and the label was significant. None of the two-way interactions with protagonist's gender and three-way interactions between label, medical diagnosis, and protagonist's gender were significant (see Table 6 and Figure 6).

A further decomposition of the two-way interaction between label and diagnosis with the Bonferroni correction again revealed that, controlling for the perception of the protagonist as having a medical condition, participants who did not receive the information about the diagnosis assessed the probability of this person having a medical condition as similar independently of whether the label was provided (*M* = 68.82, *SE* = 0.72) or not (*M* = 68.53, *SE* = 0.75), *t* (1533) = −0.27, *p* = .999, Cohen's *d* = −0.02. In turn, participants who received the information about the diagnosis assessed the probability of this person as having a medical condition as lower when the label was provided (*M* = 69.56, *SE* = 0.73) than when it was not (*M* = 73.82, *SE* = 0.78), *t*(1533) = 4.01, *p* <.001, Cohen's *d* = 0.29. Alternative decomposition of the interaction revealed that within the no-label condition, participants assessed the probability of John/Margaret having a medical condition as higher when they received the information about the diagnosis vs. when they did not have such information, *t*(1533) = −4.72, *p* <.001, Cohen's *d* = −0.34. In turn, within the label condition, participants assessed the probability of John/Margaret as having a medical condition as similar irrelevant of whether they received the information about the label together with the information about the diagnosis or not, *t* (1533) = −0.98, *p* = .999, Cohen's *d* = −0.07.

To summarize, for the perception of the protagonist as having depression, the results of Experiment 3 for the male protagonist replicate our results of Experiments 1 and 2. Again, while we did not find a significant main effect of label, we did find that the effect of label on the perceived probability that a protagonist has depression was significant when a medical diagnosis was present, but not when no diagnosis was present. For the female protagonist, we found an effect of label independent of the effect of medical diagnosis on the perception that the protagonist has depression.

For the perception that the protagonist has a medical condition, the results replicated our findings from Experiments 1 and 2 for both protagonists. The label "depression" consistently decreased perceived medical legitimacy when a diagnosis was present, and this pattern was identical for both John and Margaret. Unlike the first dependent variable (perception of having depression), where gender moderated the effect of labeling, the effect of labeling on perceived medical legitimacy remained consistent regardless of the protagonist's gender. These results indicate that while gender has

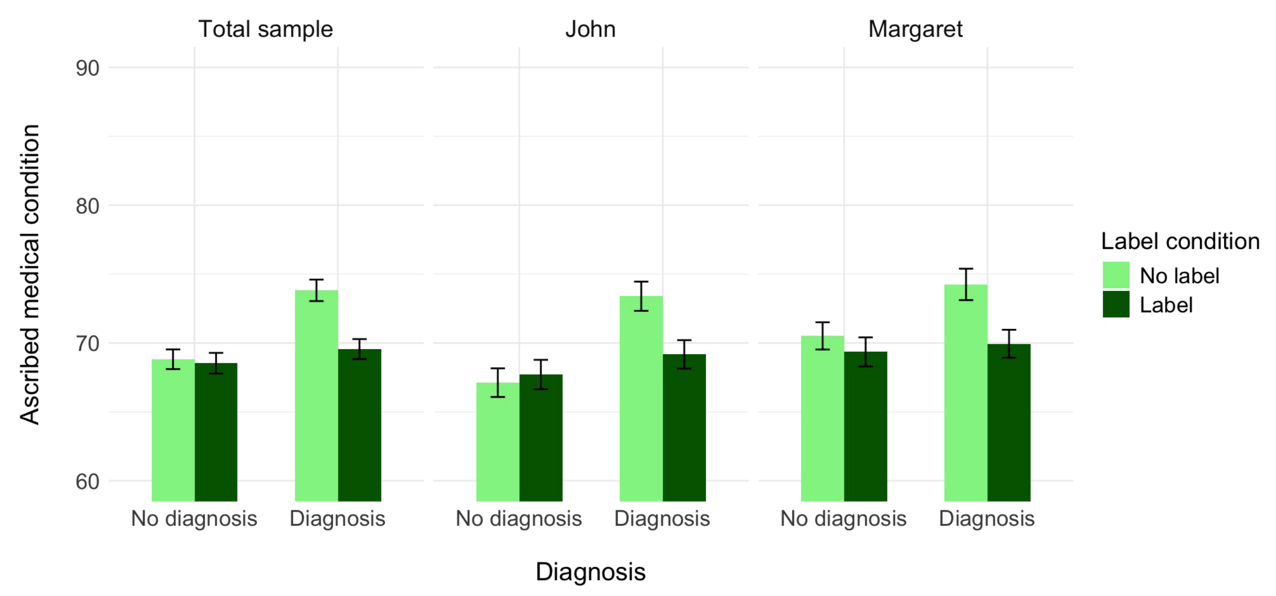

FIGURE 6
The effect of label, medical diagnosis, and protagonist's gender on ascribed medical condition, controlling for the ascribed depression (Experiment 3).

an effect on how depression labels interact with medical diagnoses in the perceived attribution of depression, it has no effect on how these labels influence the perceived legitimacy of the medical condition itself.

Meta-analysis

To strengthen our claim that using the label "depression" triggers the perception of a person as having depression, but only if it is accompanied by a medical diagnosis, we performed a meta-analysis on Experiments 1–3. To account for the variance caused by different study designs and participant populations, we performed random-effects meta-analyses using the Multicondition Meta-Analysis (MCDM) software dedicated to single-paper meta-analyses (40). Given our main hypothesis that the label "depression" triggers the perception of a person as having depression, but only if a medical diagnosis accompanies it, we were primarily interested in the label × diagnosis interaction effects in our meta-analysis. We also investigated the main effects of both manipulations, as well as the simple effect of the label when participants were informed about the diagnosis or not.

Methods

For Experiment 1, we defined and coded four subgroups, depending on whether the protagonist used the label "depression" and whether information about medical diagnosis was included in the scenario. As Experiment 2 included participants who had a history of depression and those who did not, we decided to code it as two different studies in a 2 (no label vs. label) × 2 (no diagnosis vs. diagnosis) design. Finally, Experiment 3 included a scenario of a male protagonist (John) and a female protagonist (Margaret). Hence, we also coded it as two separate studies in the same 2 × 2 design.

Results

The results of the analysis revealed a marginally significant main effect of the label, $b = 0.17$, $se = 0.09$, $Z = 1.87$, $p = .061$, a significant main effect of medical diagnosis, $b = 0.20$, $se = 0.09$, $Z = 2.16$, $p = .031$, and a reliable significant interaction between the two manipulations, $b = -0.35$, $se = 0.09$, $Z = -3.78$, $p < .001$. Further analyses confirmed the effect of label in the presence of diagnosis, $b = 0.26$, $se = 0.07$, $Z = 3.98$, $p < .001$, but a lack of such effect in the absence of diagnosis, $b = -0.09$, $se = 0.05$, $Z = -1.35$, $p = .177$. In sum, the meta-analysis supports our hypothesis that medical diagnosis legitimizes participants' attribution of depression to the protagonist, as across our three experiments, participants ascribed a higher level of depression to a protagonist when depression was diagnosed by the doctor, compared to all other conditions.

Furthermore, we analyzed I^2, a statistical measure that describes the percentage of variation in the observations (beyond that attributable to the experimental manipulations) due to heterogeneity (40). In our case, we estimated I^2 at 49.62%, $Q(12) = 23.82$, $p = .022$, suggesting that method factors account for approximately half of the variation in the observations beyond that attributable to experimental manipulations. According to guidelines on the typical I^2 size in behavioral research (41), an I^2 of approximately 50% indicates medium heterogeneity. However, the uncertainty interval for our I^2 was 95% CI [4.65%, 73.38%], suggesting that the data are consistent with there being anywhere from low to high heterogeneity, and the estimate of heterogeneity is imprecise. For that reason, we also tested whether participants' nationality, a factor varying across our experiments, impacted the effect of label × diagnosis interaction on ascribed depression. An additional test yielded no effect of the country on the interaction, $b = 0.18$, $se = 0.19$, $Z = 0.94$, $p = .350$, on the main effect of label, $b = 0.21$, $se = 0.19$, $Z = -1.07$, $p = .278$, and on the main effect of diagnosis, $b = 0.03$ $se = 0.19$, $Z = 0.16$, $p = .869$. After controlling for this study-level moderator, the general interaction effect remained significant, $b = -0.60$, $se = 0.29$, $Z = -2.09$, $p = .037$. Moreover, the estimate of heterogeneity slightly increased rather than decreased, $I^2 = 53.02\%$, 95% CI [3.82%, 77.05%], $Q(9) = 19.16$, $p = .024$, suggesting that the majority of unexplained variance was due to various factors other than country.

Additionally, we conducted a similar analysis for the perception of the protagonist as having a medical condition. The results of the analysis revealed a significant main effect of the label, $b = -0.27$, $se = 0.07$, $Z = -3.73$, $p < .001$, a significant main effect of medical diagnosis, $b = 0.50$, $se = 0.07$, $Z = 6.86$, $p < .001$, and a significant interaction between the two manipulations, $b = 0.43$, $se = 0.07$, $Z = 5.83$, $p < .001$. Further analyses confirmed the effect of diagnosis in the absence of label, $b = 0.47$, $se = 0.05$, $Z = 8.96$, $p < .001$, but a lack of such effect in the presence of label, $b = 0.04$, $se = 0.05$, $Z = 0.73$, $p = .463$. In sum, the meta-analysis strongly supported our hypothesis that using the label "depression" for self-description somehow "nullifies" the effect of medical diagnosis, as across our studies, participants ascribed a higher level of disorder to a person who had a diagnosis formulated by the doctor, but only when this diagnosis did not refer to depression. In other words, even if the symptoms described in the scenario are the same across four conditions, they are not seen as indicating a medical condition if depression is mentioned.

Again, we analyzed I^2 for this analysis and found that it was much lower than for the previous analysis. In our case, we estimated I^2 at 20.77%, $Q(12) = 15.15$, $p = .234$, 95% CI [0%, 58.41%], suggesting that method factors account for approximately a quarter of the variation in the observations beyond that attributable to experimental manipulations, which indicates relatively low heterogeneity. We again tested whether participants' nationality impacted the effect of label × diagnosis interaction on ascribed depression. An additional test yielded a significant effect of the country on the interaction, $b = -0.28$, $se = 0.13$, $Z = -2.16$, $p = .031$, while there was no moderation effect of the country on the label, $b = -0.11$, $se = 0.13$, $Z = -0.84$, $p = .400$, and on the diagnosis, $b = -0.14$, $se = 0.13$, $Z = -1.06$, $p = .289$. After controlling for this study-level moderator, the focal interaction effect remained significant, $b = 0.40$, $se = 0.07$, $Z = 4.20$, $p < .001$. At the same time, the estimate of heterogeneity decreased, $I^2 = 0\%$, 95% CI [0%, 60.52%], $Q(9) = 8.58$, $p = .477$, suggesting that some unexplained variance was due to country. In conclusion, the focal interaction was stronger in the USA than in the UK.

General discussion

In a series of three experiments, we investigated whether the perception of a person experiencing symptoms of depression as actually experiencing depression and as actually experiencing a medical condition is affected by the use of the label "depression" and the additional information that this condition was diagnosed by a doctor. We demonstrated the following: 1) participants perceived the protagonist as actually having depression to a greater extent when the label was accompanied by information that the depression had been diagnosed by a doctor, but not when there was no information about the diagnosis, and that the use of the label "depression" reduced the perception of the protagonist as experiencing an actual medical condition, even when the disorder was diagnosed by a doctor. 2) These effects were not moderated by participants' own experience of depression. 3) We replicated the aforementioned results but only for the male protagonist; for the female protagonist, we found that the effect of the label was independent of the effect of the medical diagnosis. Finally, the results of a meta-analysis on Experiments 1–3 supported our hypothesis that the use of the label "depression" weakened the effect of the medical diagnosis, as participants attributed a higher probability of an actual medical condition to a person who had a diagnosis formulated by a doctor, but only when this diagnosis did not include the label "depression".

Previous research on the effects of labeling has focused on attitudes and beliefs about people diagnosed with various mental disorders: their perceived competence, dangerousness, etc. To our knowledge, this project is the first to aim at a systematic investigation of the labeling effect on public perceptions of the experience of depressive symptoms as medically based and justified, rather than on the perceptions of a person diagnosed with depression. Our findings both align with and extend prior research on diagnostic labeling effects. Consistent with studies showing that psychiatric labels can influence perceptions of disorder (42), we found that the "depression" label altered perceived medical legitimacy. Moreover, our results help explain inconsistencies in research on medical explanations for mental disorders. While medical or biogenetic explanations may reduce blame and promote help-seeking (43), they do not consistently increase overall credibility of mental disorders and may even increase stigmatization, social distance, and pessimism about recovery. Our results show that the credibility of medical explanations is only increased when the diagnosis avoids the specific term "depression".

These findings may reflect the dual nature of "depression" in public discourse, functioning both as a clinical term and as everyday language for sadness or low mood. When the public encounters the label "depression", they may activate associations with common emotional experiences rather than severe psychiatric conditions, thereby reducing perceived medical legitimacy. This interpretation aligns with research on semantic networks and concept accessibility (44), where familiar terms may prime non-medical associations that compete with clinical interpretations. These results suggest a need to clarify what "depression" means from a medical perspective and how it differs from everyday experience. This seems particularly important given that the illness representation of depression as constructed by people who actually experience it differs markedly from the representation shared by their caregivers (45) as well as mental health professionals (46–48). In sum, the way depression is portrayed and described may affect self-stigma, treatment effectiveness, and beliefs about depression (49).

Although the effects we found are rather small, we believe that identifying any smaller effects is crucial for understanding what the term "depression" actually means to the public and how lay people perceive the legitimacy of the condition. The number of people diagnosed with depression is systematically and steadily increasing, but the number of people seeking professional help is not growing accordingly. Hence, we believe that even these small effects could be beneficial for public health. Our results could also be useful in communicating diagnoses: as we demonstrated that using the term "depression" reduces the perceived legitimacy of the disorder, clinicians may consider how they communicate a diagnosis of depressive disorder to patients and their families to avoid misunderstandings. For example, clinicians may benefit from using more specific clinical terminology (e.g., "major depressive disorder" or "clinical depression") or providing additional context that distinguishes the medical condition from everyday sadness. This approach could enhance treatment engagement and reduce the risk of patients or families minimizing the seriousness of the diagnosis. As effective communication impacts further help-seeking, treatment outcomes, and satisfaction of mental health service users (50–52), the importance of comprehensive communication between service users and clinicians seems crucial. From a public health perspective, these findings suggest that mental health literacy campaigns should address the distinction between clinical depression and everyday emotional experiences, potentially reducing misconceptions that may delay help-seeking behaviors.

An important secondary finding concerns the role of participants' personal depression experience. Although this was not our primary focus, we found a significant effect of participants' own experience with depression in Experiment 2. This suggests that such experience influences how individuals interpret depression-related information in others, which has potential clinical relevance. Individuals with personal depression experience may have different frameworks for understanding depression legitimacy, possibly due to their firsthand knowledge of symptom severity or treatment experiences. This finding aligns with research showing that mental health literacy varies significantly between those with and without personal experience of mental illness (53). Future research should systematically examine how personal depression experience shapes perceptions of depression in others, as this could inform targeted educational interventions.

Another important result that warrants further investigation comes from Experiment 3, in which we manipulated the gender of the protagonist. While the male protagonist showed results consistent with those of our female protagonists from Experiments 1 and 2, the female protagonist in Experiment 3 showed a different pattern, with label effects independent of medical diagnosis. This suggests possible gender differences in the way depression labels and medical diagnoses interact in public perception. However, as gender was only manipulated in one experiment, systematic replication across multiple studies would be necessary to establish the reliability and generalizability of this effect before definitive conclusions can be drawn about gender differences in perceptions of depression.

Future research should also systematically investigate the boundary conditions of these labeling and diagnosis effects, particularly examining individual differences and cross-cultural variations that may moderate public perceptions of depression. Understanding when and for whom these effects occur is crucial for developing targeted interventions and communication strategies. In our studies, we were unable to identify individual differences that moderate the effect of labeling and diagnosis, having examined only one potential moderator—participants' personal experience with depression. Other promising candidates for moderation effects include beliefs about depression, such as depression literacy, defined as the knowledge about depression derived from evidence-based and scientific facts about this disorder, and depression misconceptions, understood as the culturally and socially shaped false knowledge about depression (54). Similarly, we see a need for cross-cultural research to understand how different cultural contexts shape the relationship between depression labeling, medical diagnosis, and perceived legitimacy. These individual difference factors and cultural variations can influence not only the perception of depression as an actual health disorder but also the perceived severity of this disorder. Potential benefits of this area of study include better-tailored interventions for anti-stigma campaigns and reshaping the narrative about depression. This could lead to the development of public health messages that address both depression literacy and misconceptions about depression, which in turn can improve public understanding of mental health.

Whereas this research provides a systematic investigation on how the "depression" label and the information about a medical diagnosis shape lay perceptions of people with depression as legitimately experiencing depression and a medical condition, it is important to acknowledge its limitations. One limitation is that Experiment 1 relied on a single question that served as the measure of the dependent variables. We addressed this issue in Experiments 2-3 using more detailed, multi-item composite scores. We also addressed a possible limitation of Experiments 1 and 2– regarding the gender-neutral name "Alex" that could have been perceived as a female or male name and potentially influenced our results, given that depression is more commonly diagnosed in women. Although Experiment 3 directly addressed this by manipulating the protagonist's gender, the divergent findings—where the effect of the label was independent of diagnosis for the female protagonist but not for the male—highlight complexities that need further investigation.

This research project as a whole has additional constraints. First, the studies were based on written vignettes, which may not capture the full complexity of real-world public perceptions or cultural differences in understanding the phenomenon of depression. Second, although the results were consistent across studies and participants' countries of origin, the observed effect sizes were small. Third, we did not explore the underlying mechanisms for these effects or address how labeling may impact the perceived severity of depression. Fourth, our samples were predominantly from Western, educated populations, limiting generalizability to other cultural contexts where concepts of mental illness, medical authority, and stigma may differ substantially. Finally, our vignette methodology, while providing experimental control, cannot capture the dynamic nature of real-world interactions where contextual factors, non-verbal cues, and interpersonal relationships may significantly influence how depression labels and diagnoses are perceived and processed.

Data availability statement

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found below: https://researchbox.org/3167.

Ethics statement

The studies involving humans were approved by Ethics Committee at Faculty of Psychology in Wroclaw, SWPS University. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

KK: Writing – review & editing, Writing – original draft, Investigation, Conceptualization, Funding acquisition. JR: Writing – review & editing, Writing – original draft, Formal analysis. AG: Conceptualization, Supervision, Writing – review & editing, Writing – original draft, Formal analysis, Methodology.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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RESEARCH **Open Access**

Depression literacy and misconceptions scale (DepSter): a new two-factorial tool for measuring beliefs about depression

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Abstract

Background Depression literacy has received extensive attention within mental health research. It has been studied by different social groups and professions in Western and non-Western cultures. The importance of this topic stems from the fact that depression literacy is strongly related to attitudes toward people who are diagnosed with depression, the tendency to stigmatize this mental disorder, and to the propensity to undertake help-seeking behaviors. Therefore, understanding and promoting depression literacy is crucial in contemporary mental health prevention and promotion. We propose a new two-factorial tool measuring beliefs about depression. This 14-item self-report measure captures how people vary across two dimensions of beliefs about depression—depression literacy and misconceptions about depression.

Methods In ten studies with a total sample of over 4,600 participants from three countries, we demonstrated the two-factorial structure of the Depression Literacy and Misconceptions Scale (DepSter) in Polish (Studies 1 and 2), American (Study 4), and British (Study 5) samples. We showed measurement equivalence for the Polish and English versions of the scale (Study 3). Furthermore, we tested the discriminant meaning of the two dimensions of beliefs about depression analyzing its association with health literacy, mental health literacy, and prejudice toward people with mental illness (Study 4), depression literacy and depression stigma (Study 5), empathetic concerns (Study 7), social dominance orientation (Study 8), and the Big Five personality traits (Study 9). We also investigated whether individuals with formal education in psychology and direct or indirect experience with depression demonstrate a higher level of depression literacy and a lower level of misconceptions about depression (Study 6). Our measure showed high stability for two dimensions of beliefs about depression (Study 10), in both its Polish and English versions, with the measurement conducted after three weeks and three months.

Discussion We conclude that the proposed approach to beliefs about depression capturing both depression literacy and misconceptions about depression measured with the DepSter scale can easily be applied in clinical and social settings, especially in studies concerning the perception of those diagnosed with depression.

Keywords Beliefs about depression, Depression literacy, Misconceptions about depression, Social perception, Depression

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Background

Depression is one of the most common mental disorders, affecting over 264 million people around the globe [1]. It is also the leading cause of disability worldwide and contributes to the overall global burden of disease. Professional, medical knowledge about depression is well-established and systematically growing [2]. Mental health professionals recognize its cognitive, emotional, and behavioral symptoms [3], origins and treatment methods [4, 5], and neurobiological bases and mechanisms [6]. This broad spectrum of professional understanding of depression is based on gradually increasing scientific evidence and therefore, is considered accurate and factual knowledge about depression. However, despite an enormous amount of information about depression derived from scientific knowledge, there are also plenty of lay conceptions—and misconceptions—about this mental health disorder.

Furnham and Telford [7] distinguish three types or concepts within lay conceptions on mental disorders: public attitudes, lay theories, and mental health literacy. Public attitudes refer to the attitudes toward people with mental disorders, beliefs on what they are like (e.g., whether they are dangerous or not), and what kind of treatment they should get [8]. Lay theories focus on lay peoples' beliefs on the causes and treatment of mental disorders, and the relationship between these two [9, 10]. In other words, the concept of lay theories refers to the way people attribute causes of mental disorders as either biological, psychological, or social sources, and the extent to which appropriate treatment is in line with the nature of the cause of the specific disorder (e.g., to what extent a layperson would perceive taking medications as proper treatment for a disorder that is believed to have biological causes). Although some researchers claim that there is no such thing as "lay" theories because they are always—at least to some extent—derived from scientific theories and conceptions [11], this concept is still studied in mental health research [12, 13].

The third concept, mental health literacy, is crucial for this article. This term was first proposed by Jorm et al. [14] and defined as "knowledge and beliefs about mental disorders which aid their recognition, management, and prevention." Mental health literacy is considered an individual difference variable and part of more general health literacy [14, 15]. It includes a few components such as knowledge about the development and prevention of mental disorders, treatment methods and their availability, and self-help strategies and skills to support others in a mental health crisis [15]. In recent research, some additional components have been considered part of mental health literacy, such as methods for decreasing stigma related to mental disorders, enhancing help-seeking efficacy, and understanding how to improve and maintain mental health [16]. Furthermore, although mental health literacy refers to knowledge about mental disorders in general, it may also refer to a specific mental disorder such as depression. Hence, depression literacy contains all of the components of mental health literacy, yet in relation to depression [17].

Depression literacy

As depression is one of the most common mental disorders [1], depression literacy has received extensive attention within mental health research. It has been studied among different social groups and professions in Western and non-Western cultures [18–20]. The importance of this topic stems from the fact that depression literacy is strongly related to attitudes toward people who are diagnosed with depression, and especially to the propensity to stigmatize this mental disorder: better knowledge about depression leads to more positive attitudes toward those with depression and less stigmatization [21, 22]. Depression literacy is also related to the propensity to undertake help-seeking behaviors: the more people know about depression, the more likely it is for them not only to see the need to get professional help, but also to actively seek this kind of help [23, 24]. Therefore, understanding and promoting depression literacy is crucial in contemporary mental health prevention and promotion. However, we believe that, to understand this psychological phenomenon fully, we need to be able to measure it with adequate, reliable, and valid methods.

Structure and measurement of depression literacy

In a recent systematic review, Singh et al. [25] concluded that the most common approach to measuring depression literacy in adolescents is vignette-based methodology. In this method, participants are presented with a brief description of a person diagnosed with a particular mental disorder and asked to answer several questions measuring depression literacy. These questions usually refer to recognizing the presented disorder, beliefs about treatment, the likelihood of help-seeking, or willingness to assist a person diagnosed with this disorder [14, 26, 27]. The vignette-based approach has several advantages, including simultaneous assessment of multiple components of depression literacy and giving respondents a richer picture than simply referring to "depression," "mental illness," or "mentally ill people." However, one serious drawback of such an approach is the lack of standardization: different authors use different sets of vignettes, making the results of their studies incomparable [28]. Furthermore, the reliability and validity of the interpretation of vignette scores as an indicator of depression literacy are seldom reported, and therefore, the psychometric characteristics of such measures remain unknown.

Another common approach to measuring depression literacy is to employ psychometric scales such as the Depression Literacy Questionnaire (D-Lit) [29, 30] and the Adolescents' Depression Knowledge Questionnaire (ADKQ) [31], The D-Lit was first developed in Australia to measure this construct in adults, then adapted and validated in different adult populations [32, 33]. It consists of 22 true and false statements on general knowledge about depression, its symptoms, and treatment methods. The participant's task is to decide whether each statement is true or false. More correct answers indicate a higher level of depression literacy.

The ADKQ [31] assesses depression literacy and its change among youth. It consists of 19 questions, with 15 referring to knowledge about depression and the remaining four questions referring to attitudes toward people with mental disorders. Fourteen questions (13 concerning knowledge and one concerning attitudes) are answered on a dichotomous scale (true/false), while the remaining four are open-ended and require filling the gaps. Unfortunately, this approach makes this scale challenging to use since the participants' scores need to be calculated using a judge's evaluation of these open questions. Therefore, the ADKQ seems to be a standardized and validated measure of depression knowledge, but not attitudes toward people with depression.

A novel approach to depression literacy

Although based on correct (based on medical knowledge) and incorrect (based on lay knowledge) statements about depression, the questionnaires mentioned above construe depression literacy operationalized as depression knowledge as a unidimensional construct, with a higher score on the scale indicating a higher level of depression literacy. Although Hart et al. [31] tested the multifactorial structure of their ADKQ and found that two- and three-factor solutions fitted the data well, the potential dimensions they investigated were related to the knowledge content (depression literacy) and not to its validity: they assumed the existence of factors such as "causes/etiology," "signs/symptoms," and "general knowledge" [31]. In this project, however, we propose a novel scale to measure beliefs about depression that reflect both depression literacy operationalized as the knowledge about depression based on medical/psychological evidence and misconceptions about depression operationalized as stereotypical views based on lay theories and culturally driven concepts of what depression is. We assume that one's beliefs of depression are a mixture of these two components, present to a different extent. High depression literacy means that one has profound and adequate knowledge on the symptoms, causes, and treatment of depression, without sharing beliefs that are relatively common in society but not grounded in scientific knowledge. On the other hand, high levels of misconceptions about depression mean that one's knowledge is based on stereotypical convictions concerning depression rather than medical/psychological facts. We also assume that a low level of misconceptions about depression might not automatically mean that a person has good depression literacy—such a score might co-exist with a low level of depression literacy if a person did not have any knowledge about depression. Finally, we rooted our model of beliefs about depression in the assumption that a level of depression literacy and a level of misconceptions about depression might have completely different consequences for the well-being of a person and their social surroundings, depending on whether it is associated with a complete lack of knowledge about depression or with sharing beliefs derived from lay theories. In summary, the new tool we present in this article is the first attempt to create a multidimensional measure of beliefs about depression, with dimensions distinguished based on the type of knowledge. Furthermore, the new Depression Literacy and Misconceptions Scale (DepSter) was developed in two language versions and validated in a broad cultural context, making it more applicable to future research.

The present study

In the remainder of this article, our focus is on validating the two-factorial model of beliefs about depression as measured with DepSter. This scale aims to serve as an integrative measure of beliefs about depression, capturing both a level of depression literacy and a level of misconceptions about depression. To that purpose, we conducted ten studies in which we developed and validated the measure in its Polish and English versions. First, we tested the factorial structure of DepSter and demonstrated its two-factorial structure in Polish (Studies 1 and 2), British (Study 5), and American (Study 4) samples. We demonstrated the measurement equivalence for the Polish and English versions of the scale (Study 3). Going further, we tested the theoretical validity of the scale as well as the convergent and divergent relations of depression literacy and misconceptions about depression , analyzing its association with health literacy, mental health literacy, and prejudice toward people with mental illness (Study 4), depression literacy and depression stigma (Study 5), empathetic concerns (Study 7), social dominance orientation (Study 8), and the Big Five personality traits (Study 9). We also examined the concurrent validity of the scale by investigating whether individuals with formal education in psychology and direct or indirect experience with depression demonstrate a higher level of depression literacy (Study 6). Finally, our measure also showed high test-retest reliability (Study 10), in both the Polish and English versions, with the measurement conducted after three weeks and three months. All studies presented in this manuscript have been accepted by the Ethics Committee at Wroclaw Faculty of Psychology, SWPS University of Social Sciences and Humanities.

For each of the studies (not preregistered), we report how we determined our sample size, all data exclusions, and all measures in the study, and we follow JARS [34]. All data were analyzed using JASP 0.16.4.

Methods

Study 1

The aim of Study 1 was to reduce a large pool of items to psychometrically sound ones that would cover two types of beliefs about depression and provide an initial test of the factorial structure of our scale. Before we created the initial item pool, we assumed that DepSter would be a two-factor tool comprising two different aspects of such beliefs, i.e., [1] the level of depression literacy—the level of accurate, professional knowledge stemming from medical and scientific facts about depression; and [2] the level of misconceptions about depression rooted in stereotypes and culturally-based beliefs about depression. The statements comprising depression literacy were derived from the diagnostic criteria of a major depression episode taken from the DSM-V [3] and ICD-10 [35–37], as well as from current scientific knowledge about depression [2]. These statements were formulated in common everyday language rather than the language of medical discourse [38]. For example, “Fatigue or loss of energy nearly every day” [3] was transformed into “Due to depression, people do not have the energy to do anything.” The statements comprising misconceptions about depression were based on data gathered from focus groups on stereotypes about depression conducted with psychology students and the investigation of Internet forums dedicated to this topic. We assumed that our future participants would use a five-point Likert scale indicating to what extent they agreed or disagreed with the statements, as the five-point scale is reported as the most accurate and optimal for such measurements [39]; we formulated all items accordingly. Based on these assumptions, we created a list of 135 statements in Polish, 60 based on accurate (medical and scientific) knowledge, and 75 based on stereotypical (culturally-based) beliefs.

Four independent editors reviewed all items in the next step and provided necessary linguistic corrections. Then, to assess the content validity of the scale, 15 clinical psychologists were provided with the definition and conceptualization of accurate knowledge (depression literacy) and stereotypical knowledge (misconceptions) about depression and asked to evaluate whether our items reflected either of these dimensions using a three-point scale: 2 = “This item is crucial and should be included in the scale,” 1 = “This item represents the construct poorly,” 0 = “Item is not essential and should not be included in the scale” (interrater consistency: ICC=0.725, 95% CI[0.65, 0.79]). Finally, we chose items evaluated as “2” by 12 or more out of the 15 judges (CVR index of 0.60 or higher). The preliminary version of the scale consisted of 15 items, six representing depression literacy and nine misconceptions about depression.

Using this pool, we collected data to initially test a measurement model that grouped the 15 items into two first-order factors representing depression literacy and misconceptions about depression. We expected that this model would have a better fit than the model where all 15 items would converge into one factor, without distinguishing separate dimensions for depression literacy and misconceptions about depression.

Participants and procedure

We calculated our sample size using the calculator proposed by Preacher and Coffman [40]. We assumed a very conservative scenario, that our items are relatively independent and hence, the RMSEA for the null model would be low (0.12), and that the alternative RMSEA for the two-dimensional model would be at the highest value for acceptable fit (0.08). With such assumptions, we found that a sample of 250 participants would allow for results significant at 0.001 with a power of 0.95. Hence, we decided that in this initial study we would double this number and recruit at least 500 participants.

Five hundred and seventy-six Polish volunteers (see Table 1 for details of all samples), participated in an online study without compensation. Participants were recruited via a snowball sampling technique. After providing informed consent, the participants’ task was to answer demographic questions and complete a 15-item version of DepSter as a part of a larger study. For each item, they indicated their agreement on a Likert scale ranging from 1 = “Strongly disagree” to 5 = “Strongly agree.” No data were discarded.

Results

Firstly, we conducted a confirmatory factor analysis (CFA) with the maximum likelihood estimation method and robust estimation of standard errors. This procedure takes the non-normality of outcomes into account. We tested the proposed model of the DepSter scale, grouping the initial 15 items into two first-order factors representing depression literacy and misconceptions about depression. The CFA yielded a good fit for this model in light of some but not all fit indices (see Table 2). Although all standardized factor loadings were significant at $p<.001$, the value for one item from the misconceptions about the depression dimension (“Seeing a psychologist or a psychiatrist in order to receive help with fighting depression is a sign of weakness”) was very low ($\beta=0.194$), leading

Table 1 Participants demographics in Studies 1–10b

Study	Country			Gender		Age		
		Before exclusions	Final	W	M	range	M	SD
1	PL	576	576	473	103	15–87	33.05	11.17
2	PL	817	798	417	382	21–81	44.98	14.40
3	PL	207	195	127	68	17–65	31.70	8.88
4	US	318	271	117	154	20–71	36.15	10.99
5	UK	603	590	390	200	18–77	36.88	12.72
6	PL	411	411	345	66	20–87	34.05	10.45
7	PL	587	587	478	109	15–71	33.90	9.84
8 a	UK	401	389	263	126	18–69	34.62	11.82
8b	PL	394	394	323	71	18–71	28.38	9.11
9	PL	364	364	289	75	15–87	35.82	12.20
10 a	US	112	112	54	58	20–69	37.47	10.85
10 b	PL	123	123	99	24	15–75	31.91	11.36

us to remove this item from the scale. As a result, we were left with a 14-item scale, which again exhibited a similar data fit.[1] Standardized factor loadings for all items were significant at $p<.001$. The standardized factor loadings and item-dimension correlations for the 14 DepSter items are presented in Table 3. All the item-dimension correlations exceeded 0.20, confirming the discriminative power of the 14 items.

Secondly, we also tested the alternative, one-dimensional structure of the DepSter scale, assuming that all the items load into just one factor representing depression literacy. This model fit was worse than for the previous model. Again, factor loading for one item was much lower than the other factor loadings. After excluding this item from the scale, the model was still worse than the respective two-factor model (Table 2).

In sum, we decided to conclude on the two-factor structure of the scale, as it was better fitted and more relevant to our theoretical approach. In other words, beliefs about depression measured with the DepSter scale consist of having a level of depression literacy and a level of misconceptions about depression. Moreover, we decided to exclude the one item with the lowest factor loading in all analyses and use the 14-item version of the scale.

Regarding its readability, the final scale had a satisfying Gunning fog index of 4.56, meaning that it would be easily understood by somebody with about one to six years of formal education. We also evaluated DepSter's internal consistency. Cronbach's α was slightly below the conventional threshold for the depression literacy subscale ($\alpha=0.64$) and satisfactory for the misconceptions about depression subscale ($\alpha=0.78$).

Study 2

Having garnered initial support for the proposed structure of beliefs about depression as measured with DepSter in Study 1, the aims of Study 2 were threefold: [1] to confirm the adequacy of the scale in a representative sample of adult Poles; [2] to inspect if the scale yielded any age, gender, or education differences; and [3] to establish the initial validity and reliability of the scale.

According to research on general health literacy and mental health literacy, levels of these two constructs differ among people in different age groups. In general, older people have less adequate and less accurate knowledge about physical diseases, their causes, and treatment methods than younger subjects [16, 31, 43]. The same pattern is observed for mental disorders [44, 45]. Moreover, older age is also a predictor of more negative attitudes toward people diagnosed with mental disorders [46, 47]. Therefore, we expected a positive correlation between age and misconceptions about depression and a negative correlation between age and depression literacy.

Women are more likely than men to engage in healthy lifestyle choices and health-related behaviors [48, 49], as well as health information seeking [50]. They also present greater general health-related knowledge than men [51] and greater mental health literacy [52]. Furthermore, a recent review of the concept of mental health literacy, its correlates, and importance revealed that female gender is also one of the most important predictors of mental health literacy [53], since the vast majority of reviewed studies reported that women have better knowledge about mental disorders and are more accurate in recognizing symptoms of them than men. Therefore, we expected that women would demonstrate lower scores on misconceptions about depression and higher scores

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[1] The CFI and TLI are incremental fit indices that compare the theoretical model with a null (independent) model, while RMSEA is an absolute fit index. In our case, RMSEA and SRMR suggested an adequate fit, while CFI and TFI did not, which might imply that the fit for the null model is relatively good. Hence, we investigated the RMSEA for a model that assumed no relation between the 15 items in the DLS scale, and found that it was relatively low, RMSEA=0.148, 90% CI [0.141, 0.155]. As suggested by Kenny [41] and van Laar and Braeken [42], when the RMSEA of the null model is below 0.158, using incremental fit indices for the evaluation of the proposed model may not be informative.

Table 2 Model fit indices for the two-factor model and one-factor model of the DepSter scale in Studies 1–5

Study	Two-factor model						One-factor model						$\Delta\chi^2/\Delta df$
	χ^2/df	RMSEA	90%CI	SRMR	TLI	CFI	χ^2/df	RMSEA	90%CI	SRMR	TLI	CFI	
1 ver1	4.15	0.074	[0.066, 0.082]	0.060	0.84	0.86	5.72	0.091	[0.083, 0.098]	0.069	0.79	0.73	145.23*
1 ver2	4.24	0.075	[0.067, 0.084]	0.060	0.85	0.88	6.11	0.094	[0.086, 0.102]	0.071	0.80	0.76	147.93*
2	4.94	0.071	[0.063, 0.079]	0.046	0.93	0.94	18.70	0.150	[0.142, 0.157]	0.104	0.67	0.73	899.40*
4	3.85	0.103	[0.090, 0.115]	0.072	0.87	0.89	4.16	0.108	[0.096, 0.120]	0.074	0.85	0.87	27.43*
5	3.84	0.069	[0.061, 0.078]	0.061	0.88	0.90	4.44	0.076	[0.068, 0.085]	0.062	0.86	0.88	49.42*

NOTE: ver1: 15 item model, ver2: 14 item model, Δdf=1, * *p*<.001

Table 3 Standardized factor loadings and item-dimension correlations for the DepSter items (Study 1)

Item	Standardized factor loadings	Item-rest correlations
Depression Literacy (DL)		
1. Depression is an illness	0.45***	0.32
2. Depression may affect anyone	0.43***	0.33
3. Depression makes people lose interest even in the things they used to enjoy doing	0.54***	0.43
4. Depression makes people lack the strength to do anything	0.54***	0.42
5. People with depression often think about suicide	0.43***	0.36
6. Depression is associated with great suffering	0.56***	0.41
Misconceptions about depression (MiscD)		
7. Depression is just a fad	0.56**	0.50
8. Depression is just a temporary mood deterioration	0.35**	0.34
9. Depression affects only people who are weak and cannot cope with their life	0.52***	0.51
10. To overcome depression, all you need is willpower	0.86***	0.68
11. To overcome depression, all you need is to get yourself together	0.88***	0.70
12. Antidepression medication starts to work right after intake	0.27***	0.27
13. Depression is just self-pity	0.57***	0.53
14. People with depression are mentally weak	0.45***	0.47

* p<.05, **p<.01, ***p<.001

on depression literacy than men. Moreover, we hypothesized that less educated people would score higher on misconceptions about depression and lower on depression literacy than more educated people. We rooted this expectation in the results showing that people with a better education present a better understanding of mental disorders and better accuracy in the recognition of symptoms [53, 54].

Participants and procedure

In this study, we decided to double the sample size that we calculated for Study 1. Hence, N=817 participants, constituting a representative sample of Polish adults in terms of gender, age, education, and residence, contributed to an online study with compensation provided by the Ariadna Internet research panel. After providing informed consent, the participant's task was to answer demographic questions and complete a 14-item version of DepSter as a part of a larger study. The order of items in the DepSter scale was randomized. We embedded two questions in the survey, serving as attention checks. In the first one, embedded in the demographic section, we asked participants to provide the current year. In the second one, embedded in the DepSter scale, we asked them to mark a specific answer ("strongly agree"). Based on the attention checks, 28 participants were excluded from further analysis (eight did not provide a valid year, and another 20 did not mark the appropriate answer). The final sample consisted of N=789 participants (Table 1). Concerning the level of education, 12 participants indicated Level 1[2] (1.5%), 8 participants declared Level 2, 102 participants declared Level 3, 357 participants declared Level 4, and 310 participants declared Level 6 and higher.

Results

Internal validity

Firstly, we retested the proposed model of the scale using CFA with the maximum likelihood estimation method and robust estimation of standard errors. To reiterate, this model groups the 14 items into two first-order factors representing two dimensions of depression literacy and misconceptions about depression. The CFA yielded a good fit for this model (Table 2), and standardized factor loadings for all items were significant at $p<.001$. As in Study 1, we also tested the alternative, one-dimensional structure of the DepSter scale, assuming that all items load into just one factor representing beliefs about depression. Again, this model fit was worse than for the previous model (Table 2). Both dimensions had good internal consistency ($\alpha=0.84$ for DL and 0.86 for MiscD), and the two dimensions correlated negatively, $r=-0.45$, $p<.001$. Overall, these results provide additional evidence for the good internal validity of the bi-dimensional structure of the scale in a more heterogeneous sample of Polish participants.

External validity

Contrary to what we expected, we did not observe significant correlations between age and depression literacy, $r(789)=-0.002$; $p=.965$, nor misconceptions about depression, $r(789)=0.02$; $p=.645$. As hypothesized, women scored higher on depression literacy ($M=4.24$, $SD=0.61$) than men ($M=3.93$, $SD=0.67$), $t(752.622)=6.65$, $p<.001$, Cohen's $d=0.47$, while, men scored higher on misconceptions about depression ($M=2.49$, $SD=0.79$) than women ($M=2.07$, $SD=0.74$), $t(787)=-7.62$; $p<.001$, Cohen's $d=0.55$. Finally, as expected, the level of participants' education was positively correlated with depression literacy, Spearman's $Rho=0.11$; $p=.001$, while it negatively correlated with misconceptions about depression, Spearman's $Rho=-0.21$; $p<.001$.

To sum up, the results of Study 2 confirmed the proposed structure of DepSter and its psychometric adequacy in a second, representative sample of Polish adults, and allowed us to establish the basic demographic patterns of the scale, which revealed no age effect and small-to-moderate gender and education effects, with relatively better-educated participants and women scoring slightly higher on depression literacy, while scoring lower on misconceptions about depression. Finally, we demonstrated that the DepSter's subscales have good reliability, measured as internal consistency.

Study 3

This study aimed at developing an English version of DepSter using a back-translation procedure and testing the equivalence of the two language versions. Firstly, 14 items were translated from Polish into English by a professional translator who consulted with native English speakers. Next, another professional translator translated these items from English into Polish. Secondly, we compared two Polish versions and made the necessary corrections in the English version of the items. Finally, we asked participants fluent in English and Polish to fill out both versions of the scale and tested correlations between these two versions and their internal consistencies.

Participants and procedure

Since in this study we investigated the correlations between two language versions of the scale, we calculated our sample size assuming that we wanted it to be large enough to detect a correlation of 0.3 at a significance of 0.01 with a power greater than 0.95, giving us a sample size of 182 participants [56]. Factoring for potential attrition due to the lack of language proficiency, we invited 207 Polish participants to complete both the English and Polish versions of DepSter in an online study. Participants were also asked to assess their language proficiency (for both English and Polish) on a nine-point scale from 1 = "Beginner" to 9 = "Very advanced" and answer one question on the current year serving as an attention check (the same as in Study 2). Their participation was not rewarded. We excluded 11 participants from further analysis (five were excluded based on insufficient language proficiency, and six failed the attention check). The final sample consisted of 195 participants (Table 1).

Results

The correlations between the dimensions and total score of the Polish and English versions of DepSter with their respective internal consistencies are presented in Table 4. For the Polish version of the scale, Cronbach's α was slightly below the conventional threshold for the depression literacy dimension, but high for the misconceptions about depression subscale. For the English version of the scale, Cronbach's α was high for both dimensions.

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[2] According to the European Qualification Framework [55].

Table 4 Internal consistency, descriptive statistics, and intercorrelations for the two language versions of the DepSter subscales in Study 3 (N = 196)

Dimension	α	M	SD	1.	2.	3.
Polish version						
1. Depression Literacy (DL)	0.61	4.38	0.44	-		
2. Misconceptions about Depression (MiscD)	0.83	1.54	0.55	−0.51**	-	
English version						
3. Depression Literacy (DL)	0.76	4.30	0.61	0.70**	−0.37**	-
4. Misconceptions about Depression (MiscD)	0.84	1.58	0.61	−0.33**	0.71**	−0.46**

* p < .05, **p < .01, ***p < .001

As expected, we observed high correlations between the scores on the depression literacy and misconceptions about depression subscales in both language versions (Table 4). The pattern of correlations between the two dimensions was similar across language versions, respectively Z = 1.51, p = .132 for the comparison of correlations between depression literacy and misconceptions about depression.

To conclude, the results of Study 3 demonstrated the similarity of the Polish and English versions of DepSter, together with their satisfactory internal consistency.

Study 4

This study aimed to confirm the structure of the DepSter scale in an American sample and provide an initial test of the convergent and divergent validity of the scale's score interpretation and the discriminant validity of the two factors of DepSter. We investigated the relationship between beliefs about depression measured with our scale and other constructs such as health literacy, mental health literacy, and prejudice toward people diagnosed with mental disorders. We started DepSter validation by examining its relationship with health and mental health literacy, since these two constructs represent a similar theoretical field as our scale. Health literacy is a concept that reflects peoples' ability and motivation to seek health information to maintain good health [43, 57]. A high level of health literacy is associated with better knowledge about chronic diseases [58], better health status [59], and even a lower mortality rate among older adults [43]. Crucially, from our point of view, a high level of health literacy is also related to a better understanding of mental disorders and with better mental health in general [60]. Therefore, we hypothesized that scores on the depression literacy subscale should be positively correlated with scores on the scale measuring health literacy. We also expected that the misconceptions about depression subscale and health literacy scale should be negatively correlated. However, the strength of this correlation should be lower than for the depression literacy subscale.

As described in the introduction, mental health literacy is a subtype of health literacy encompassing knowledge and beliefs about mental disorders, the ability to recognize symptoms of mental disorders, knowledge about methods of treatment, and self-help strategies [14, 15] but also on strategies to reduce mental health-related stigma [16]. Hence, we hypothesized that depression literacy should positively correlate with mental health literacy, while misconceptions about depression should correlate negatively. Furthermore, as mental health literacy is conceptually closer to depression literacy than general health literacy, we expected these correlations to be stronger than correlations between DepSter's subscales and the health literacy measure.

As a low level of mental health literacy is associated with more negative attitudes and greater prejudice toward people with mental illness [61], we tested the relationship between the two dimensions of DepSter and the level of prejudice mentioned above. We expected that depression literacy would negatively correlate with such prejudice, while we expected an inverse relationship with misconceptions about depression. Furthermore, we expected that the relationship between misconceptions about depression and prejudice would be stronger than the relation for depression literacy. Again, as prejudice toward people with mental illness is conceptually closer to depression literacy than general health literacy, we expected these correlations to be stronger than the correlations between DepSter subscales and the health literacy measure.

Participants and procedure

In this study, we aimed to investigate the factorial structure of the English version of DepSter using CFA. Concerning the sample size, we relied on the power analysis we conducted for Study 1, and aimed to recruit at least 250 participants in this study. Factoring for potential attrition due to attention checks, we recruited 318 US residents to take part in the study conducted via the Amazon Mechanical Turk platform in exchange for $1.30. After providing informed consent, their task was to fill out an English version of DepSter and questionnaires measuring the level of health literacy, mental health literacy, and prejudice toward people with mental illness. The questionnaires were presented in random order. We also embedded the same two questions that served as an attention check in Study 2 and excluded 46 participants from the analysis, leaving a sample of N=271 participants (Table 1). The sample was large enough to detect a correlation of 0.24 at p=.01 with 0.95 power.

We measured health literacy with the Health Literacy Survey (HLS-Q6) [62]. The HLS-Q6 consists of six items such as "On a scale from very easy to very difficult, how would you say it is to use information the doctor gives you to make decisions about your illness" or "On a scale from very easy to very difficult, how would you say it is to find information on how to manage mental health problems like stress or depression" (α=0.80). Participants indicated their answers using a four-point scale (1 = "Very difficult" to 4 = "Very easy"), with a higher score indicating a higher level of health literacy.

To measure mental health literacy, we used the Mental Health Literacy Scale (MHLS) [63], assessing attributes of mental health literacy such as the ability to recognize mental disorders, knowledge of how to seek mental health information, and attitudes that promote recognition and appropriate help-seeking. It consists of 35 items (α=0.87). On the first 15 items, participants indicated their answers using a four-point scale (1 = "Very unlikely" to 4 = "Very likely"), such as "If someone experienced a low mood for two or more weeks, had a loss of pleasure or interest in their normal activities, and experienced changes in their appetite and sleep, then to what extent do you think it is likely they have a major depressive disorder." On 16 items (e.g., "I am confident that I know where to seek information about mental illness"), participants indicated their answers using a four-point scale (1 = "Strongly disagree" to 4 = "Strongly agree"). On seven items (e.g., "How willing would you be to move next door to someone with a mental illness"), participants indicated their answers using a four-point scale (1 = "Definitely unwilling" to 4 = "Definitely willing").

To measure prejudice toward people diagnosed with mental disorders, we employed the Prejudice towards People with Mental Illness scale (PPMI) [64]. It consists of 28 items such as "I would find it hard to talk to someone who has a mental illness," "People who are mentally ill are avoiding the difficulties of everyday life," or "The behavior of people with mental illness is unpredictable." Participants indicated their answers on a nine-point scale ranging from −4 ("Very strongly disagree") to +4 ("Very strongly agree"), with a higher score reflecting a greater level of prejudice (α=0.91).

Table 5 Correlations between the scores on DepSter subscales and other constructs in Studies 4–9

Measures	DL	MiscD
Study 4 (N=271)		
Health literacy (HLS-Q6)	0.12*	−0.06
Mental health literacy (MHLS)	0.43**	−0.67**
Prejudice towards people with mental illness (PPMI)	−0.32**	0.64**
Study 5 (N=590)		
Depression literacy (D-Lit)	0.14**	−0.40**
Depression stigma	0.06	0.44**
Personal stigma	−0.06	0.56**
Perceived stigma	0.15**	0.17**
Study 7 (N=587)		
Empathetic concern	0.34**	−0.14**
Perspective taking	0.24**	−0.19**
Personal distress	−0.01	−0.09*
Empathetic sensitivity	0.29**	−0.20**
Study 8		
Social dominance orientation, UK sample (N=389)	−0.19**	0.54***
Social dominance orientation, Polish sample (N=394)	−0.09	0.26**
Study 9 (N=364)		
Neuroticism (TIPI)	−0.19**	0.19**
Extraversion (TIPI)	−0.05	0.02
Openness (TIPI)	0.01	−0.15**
Agreeableness (TIPI)	−0.07	0.05
Conscientiousness (TIPI)	−0.03	−0.03

* p<.05, **p<.01, ***p<.001

Results

Internal validity

As a first step, we retested the proposed model of the scale in its English version. To reiterate, this model grouped the 14 items into two factors: depression literacy and misconceptions about depression. A maximum likelihood CFA demonstrated that the fit for this model was worse than in the Polish sample (Table 2), possibly be due to the smaller sample size. As in previous studies, we also tested the alternative, one-dimensional structure of the DepSter scale, assuming that all items loaded into just one factor representing beliefs about depression. Again, this model fit was worse than for the previous model (Table 2). These results provide additional evidence for the bi-dimensional structure of the scale, this time in its English version, and its good internal validity. Cronbach's α for the depression literacy dimension was below the conventional threshold (α=0.59), while it was high for misconceptions about depression (α=0.93).

Convergent and divergent validity

The correlations between DepSter and other used measures are presented in Table 5.

In line with our prediction, depression literacy was positively correlated with health literacy and mental health literacy and negatively correlated with prejudice toward people with mental illness. Again, in line with our expectations, misconceptions about depression was negatively correlated with mental health literacy and positively correlated with prejudice toward people with mental illness.

However, contrary to our expectations, it was not associated with health literacy.

Confirming our expectations, DepSter's subscales correlated with mental health literacy and prejudice toward people with mental illness more strongly than with general health literacy. Furthermore, although we failed to demonstrate that misconceptions about depression is negatively related to health literacy, we confirmed that the correlation between health literacy and depression literacy is stronger than between the former and stereotypical knowledge. This pattern possibly stems from the fact that the HLS-Q6 focuses mainly on the ability to seek accurate information about health, disease prevention, and health promotion [62] and not on general knowledge about health-related issues. Finally, we expected that prejudice toward people with a mental illness would correlate more strongly with misconceptions about depression than depression literacy, which is precisely what we found.

To sum up, the results of Study 4 again corroborated the structure of DepSter, this time in an American sample, and provided an initial confirmation of the theoretical validity of the scale.

Study 5

The aim of this study was twofold: to reconfirm the structure of DepSter in its English version in a different population and a larger sample, and to demonstrate its convergent and divergent validity [65] by analyzing correlations with another popular measure of depression literacy as well as with the Depression Stigma Scale [29].

Depression literacy is a form of mental health literacy defined as "the knowledge and beliefs about mental disorder which aid their recognition, management, or prevention" [14]. More recently, the definition was extended to knowledge on whether or not the mental disorder is developing, knowledge about treatment availability and self-help strategies [15], and comprehension of how to decrease mental health stigma [16]. One of the first and most commonly used tools to assess depression literacy (D-Lit) was developed by Griffiths et al. [29]. Therefore, we hypothesized that if DepSter is valid, the score on the depression literacy subscale should positively correlate with the score on D-Lit and that the score on the misconceptions about depression subscale should correlate negatively with the score on D-Lit, with the former correlation being stronger than the latter. We further hypothesized that misconceptions about depression would be positively related to depression stigma and the personal stigma subscale, while depression literacy measured with DepSter would negatively correlate with these two constructs. As depression literacy does not reflect the beliefs about other people's opinions on depression [14–16], we expected, at most, modest correlations between perceived stigma and the score on DepSter.

Participants and procedure

In this study, we again aimed to investigate the factorial structure of the beliefs about the depression model using CFA as well as the relations between depression literacy and misconceptions about depression with relevant constructs using correlation analysis. Concerning the sample size, we again relied on the power analysis we conducted for Study 1, but this time aimed to double it and recruit at least 500 participants. Factoring for potential attrition due to attention checks, we recruited 603 Prolific Academic users from the UK who took part in an online study in exchange for £0.60. As 13 participants did not provide proper answers to the attention checks (the same as in previous studies), they were excluded from the analysis, leaving a sample of $N=590$ participants (Table 1). The sample was large enough to detect a correlation of 0.17 at $p=.01$ with 0.95 power.

After providing informed consent, participants were asked to fill out an English version of DepSter, the D-Lit questionnaire, and the Depression Stigma Scale [29]. The order of questionnaires and the order of items within the questionnaires were randomized.

D-Lit [29] consists of 22 statements about depression (both correct and incorrect), constituting one dimension. The task of the participant is to mark whether a statement is true or false (e.g., "People with depression often speak in a rambling and disjointed way" or "Sleeping too much or too little may be a sign of depression"). The number of correctly marked statements indicates the participant's depression literacy ($\alpha=0.70$).

Depression stigma, measured with the Depression Stigma Scale [29], reflects one's attitudes toward people diagnosed with depression ($\alpha=0.78$). It consists of 18 items constituting two dimensions that measure: [1] personal stigma ($\alpha=0.76$) that is, participants' attitudes toward people diagnosed with depression (e.g., "Depression is a sign of personal weakness," "If I had depression I would not tell anyone," and "I would not employ someone if I knew they had been depressed"); and [2] perceived stigma ($\alpha=0.82$), i.e., the participant's beliefs about the attitudes of others toward people diagnosed with depression (e.g., "Most people believe that depression is a sign of personal weakness," "If they had depression, most people would not tell anyone," and "Most people would not employ someone they knew had been depressed). Participants provided their answers on a five-point scale from 1 = "Strongly disagree" to 5 = "Strongly agree".

Results

Internal validity

As a first step, since we collected data from a new (British) population, we retested the proposed two-factor model of the scale. A CFA with maximum likelihood estimation with robust errors yielded a good fit for this model in light of most fit indices. As in previous studies, we also tested the alternative, one-dimensional structure of the DepSter scale. Its fit was slightly worse than for the default model (Table 2). Cronbach's α was low for depression literacy ($\alpha = 0.49$) and high for misconceptions about depression ($\alpha = 0.85$).

Convergent and divergent validity

The correlations between DepSter, D-Lit, and the Depression Stigma Scale are presented in Table 4. As predicted, the score on the depression literacy dimension correlated positively, yet low, with the score on the other measure of depression literacy (D-Lit), while the score on the misconceptions about depression dimension correlated negatively with the score on D-Lit. The low correlation of depression literacy measured by the DLS and this same construct measured by D-Lit may result from the specificity of the latter. Although D-Lit consists of accurate and inaccurate statements about depression, it also includes questions about the symptoms of other mental disorders that can be confused with depression. In contrast, DepSter focuses solely on the symptoms of depression. To some extent, D-Lit may therefore be considered as a somehow more general measure of mental health literacy, not depression literacy itself when compared to DepSter's depression literacy subscale.

As predicted, the level of misconceptions about depression correlated positively with these two constructs. We did not observe a correlation between depression literacy and depression stigma or between the level of depression and personal stigma. The level of perceived stigma turned out to weakly positively correlate with both the level of misconceptions about depression and depression literacy.

Overall, the results of Study 5 again corroborated the structure of DepSter, this time in a British sample, and provided further confirmation of the theoretical validity of the scale.

Study 6

So far, we have demonstrated the relationship between depression literacy and misconceptions about depression measured with DepSter and other constructs from the same domain (general or specific health literacy). The aim of Study 6 was to establish the criterion validity of the DepSter subscales. We predicted that depression literacy would be higher for participants who have formal education in psychology and those who have previous experience with depression, either being diagnosed themselves or being familiar with a person diagnosed with depression. On the contrary, the level of misconceptions about depression would be lower for participants who have formal education in psychology and those who have previous experience with depression, either being diagnosed themselves or being familiar with a person diagnosed with depression.

Previous studies have demonstrated that the representatives of different mental health professions differ in levels of mental health literacy. For example, psychiatrists have higher literacy levels than psychiatric nurses [66], while psychologists are more accurate in recognizing symptoms of mental disorders than counselors [67]. Regardless of these differences among mental health professionals, they have more accurate knowledge about mental disorders than non-mental health professionals [68, 69] and the general public. Therefore, we expected that DLS scores would differ depending on whether participants had formal education in psychology. We presumed that those with a university degree in psychology would score lower on misconceptions about depression but higher on depression literacy compared to those educated in different disciplines.

Recent research has also revealed that previous contact with a person diagnosed with a mental disorder predicts mental health literacy [54, 70]. For example, people who have experienced depression were more likely to recognize its symptoms than those who have not been diagnosed with it [71], indicating that they might have more accurate knowledge of the disease. Similarly, people familiar with a person diagnosed with depression recognized depressive symptoms more accurately than those who did not know a person with such a diagnosis [72]. In line with these results, we expected the highest scores on depression literacy for people who suffered from depression, moderate scores for people familiar with a diagnosed person but who did not suffer from it, and lowest scores for those without previous contact with depressed people. We expected the reversed pattern for the misconceptions about depression.

Participants and procedure

We had no strict prediction for the effect size in comparison between our three groups, so we assumed that the sample size should be large enough to detect $\eta^2 = 0.05$. A priori power analysis [56] revealed that we would need a sample of at least 399 participants to detect such an effect at $p = .01$ with a power greater than 0.95.

Since, as we demonstrated in Study 2, education level might also play a role in depression literacy, we invited only participants who had university degrees to exclude level of education as a potential confounder. Four hundred and eleven Polish participants (Table 1) participated in an online study without compensation. In addition to filling out the DepSter scale, they provided information on the type of their education that we further coded as psychology (144 participants, 35% of the sample) or other (267, 65% of the sample). They were also asked if they had ever been diagnosed with depression themselves and if they were familiar with a person who had ever been diagnosed with depression. One hundred and eleven participants (27% of the sample) declared that they had been diagnosed with depression, and 221 participants (53.8% of the sample) declared that they were familiar with a person who had been diagnosed with depression. The remaining 79 participants (19.2% of the sample) declared that they had not been diagnosed with depression themselves and were not familiar with a person who had been diagnosed with depression. Cronbach's α was satisfactory for the depression literacy subscale (α = 0.66) and high for the misconceptions about depression subscale (α = 0.80).

Results

In line with our expectations, we observed the predicted difference between psychology graduates and others concerning the level of misconceptions about depression, t(398.97) = 6.01, p < .001, Cohen's d = 0.57, as the former group scored lower (M = 1.32, SD = 0.38) than the latter (M = 1.61, SD = 0.60). The difference between the two groups concerning the level of depression literacy was not significant, t(409) = −1.27, p = .204, Cohen's d = 0.12.

Further analysis revealed that the three groups of participants who differed in their depression experience also differed in the level of depression literacy, F(2, 175.06) = 5.44, p = .005, $\eta p^2 = 0.033$, and misconceptions about depression F(2, 175.38) = 15.17, p < .001, $\eta p^2 = 0.090$. Notably, these differences were stronger in terms of effect sizes for misconceptions about depression than for depression literacy. Further post hoc tests using Games-Howell's correction showed that people who had no previous contact with depression demonstrated lower levels of depression literacy (M = 4.37, SD = 0.52) than participants who had been diagnosed with depression themselves (M = 4.60, SD = 0.43), t(146.49) = 3.29, p = .004, Cohen's d = 0.54, and than participants who were familiar with a person who had been diagnosed with depression (M = 4.54, SD = 0.41), t(113.95) = 2.66, p = .024, Cohen's d = 0.39. However, participants who were familiar with a person diagnosed with depression or who had been diagnosed with this disorder themselves did not differ with regards to depression literacy, t(211.87) = 1.27, Cohen's d = 0.14. Moreover, participants who had no previous contact with depression demonstrated higher levels of misconceptions about depression (M = 1.82, SD = 0.74) than participants who knew a person who had been diagnosed with depression (M = 1.49; SD = 0.48), t(102.73) = 3.66, p = .001, Cohen's d = 0.63, and those who had been diagnosed with depression themselves, (M = 1.34, SD = 0.30), t(109.61) = 5.29, p < .001, Cohen's d = 0.92. Finally, participants who knew a person who had been diagnosed with depression demonstrated slightly higher levels of misconceptions about depression than participants who had been diagnosed with depression themselves, t(263.23) = 2.56, p = .005, Cohen's d = 0.30.

To sum up, this study provided further support for the criterion validity of the DepSter scale by evaluating whether formal psychological education and previous contact with depression resulted in higher levels of depression literacy and lower levels of misconceptions about this disorder.

Study 7

The aim of Study 7 was to further investigate the convergent validity of DepSter subscales [65]. For this purpose, a large sample of Polish participants was asked to complete DepSter together with a measure of empathy, a construct that we expected to be related to depression literacy and misconceptions about depression.

Empathy is defined as a construct describing one's reactions to other people's experiences [73]. It manifests as the attempt to take others' perspectives while observing them in difficult situations [74]. Empathy is crucial for other people's perception [75–77]. Not surprisingly, empathy is also considered one of the crucial factors for a better understanding of those suffering from mental illness or other health-related problems [61, 78]. Hence, we expected empathetic concern and perspective taking to be positively related to depression literacy and negatively associated with misconceptions about depression. We also expected that depression literacy and misconceptions about depression would not be related to personal distress.

Participants and procedure

In this study, we expected that the correlation between misconceptions about depression and empathetic concerns might be relatively weak, hence we calculated our sample size assuming that we wanted it to be large enough to detect a correlation of 0.2 at a significance of 0.01 with a power greater than 0.95, which gave us a sample size of 431 participants [56].

Five hundred and eighty-seven Polish residents (478 women, 109 men, aged 15–71 years, M = 33.90; SD = 9.84) participated in the online study without compensation. The link to the study was distributed via multiple web pages, including social media platforms. Participants filled out the Empathetic Sensitivity Scale [79] along with DepSter. The order of questionnaires was randomized. Cronbach's α was high for both depression literacy (α = 0.92) and misconceptions about depression subscales (α = 0.84).

The Empathetic Sensitivity Scale is a modified version of the Interpersonal Reactivity Index [73] and consists of 28 items grouped into three subscales. The empathetic concern subscale (α = 0.78) consists of 11 items (e.g., "I would describe myself as a pretty soft-hearted person" or "I am often quite touched by things I see happen") and measures one's ability to have compassion toward others. The perspective taking subscale (α = 0.74) consists of nine items (e.g., "I try to look at everybody's side of a disagreement before I make a judgment" or "I sometimes try to understand my friends better by imagining how things look like from their perspective") and measures one's ability to consider someone else's point of view. Finally, the third subscale, personal distress (α = 0.78), measures the feeling of distress while observing other people's suffering and struggle, and consists of eight items (e.g., "I sometimes feel helpless when I am in the middle of a very emotional situation" or "Being in a tense emotional situation scares me"). Participants ranked their answers on a five-point scale ranging from 1 = "Totally disagree" to 5 = "Totally agree".

Results

The results are presented in Table 4. As hypothesized, the score on depression literacy was positively correlated with the scores on empathetic concern and perspective taking, while scores on the misconceptions about depression subscale negatively correlated with the aforementioned subscales of the Empathetic Sensitivity Scale. Moreover, the score on the depression literacy subscale did not correlate with the score on personal distance. However, we observed a significant yet small correlation between the misconceptions about depression subscale scores and the personal distress subscale score.

Overall, Study 7 confirmed the theoretical validity of the DepSter scale.

Study 8

The aim of Study 8 was to demonstrate the similar validity of DepSter in two different cultures. For this purpose, a large sample of British participants completed the DepSter scale together with the Social Dominance Orientation Scale [80]. Furthermore, we tested whether a similar correlation pattern would also occur in a Polish sample.

Social dominance expresses the level of preference toward social distance [80]. People with a high social dominance orientation prefer greater interpersonal distance than those who score low in social dominance [81]. A high level of this variable is related to prejudice and legitimizing different types of myths about the members of an out-group [82, 83]. This construct also plays a crucial role in stereotyping: those high in social dominance are more eager to use stereotypes in their judgment about other people and are less likely to change this stereotypical point of view [84, 85]. Furthermore, what is crucial for us is that social dominance orientation is related to using stereotypes and the willingness to maintain a distance from people diagnosed with mental illness [86]. For that reason, we expected scores on the Social Dominance Orientation Scale to correlate negatively with scores on the depression literacy subscale and positively with scores on the misconceptions about depression scale, with the latter being stronger than the former. We assumed that a similar correlation pattern in the British and Polish samples would speak in favor of the theoretical validity of our scale.

Participants and procedure

In this study, we expected that the correlation between depression literacy and social dominance orientation might be relatively weak, hence we calculated our sample size assuming that we wanted it to be large enough to detect a correlation of 0.2 at $p = .01$ with a power greater than 0.95, giving us a sample size of 431 participants [56]. Due to financial constraints, concerning the British sample, we recruited $N = 401$ Prolific Academic users from the UK (269 women and 132 men, aged 18–69 years, $M = 35.35$, $SD = 17.67$) to participate in this study in exchange for £0.60. Twelve participants were excluded based on two attention checks (the same as in previous studies), and the final analysis was conducted on the data from 389 participants (263 women, 126 men, aged 18–69 years, $M = 34.62$, $SD = 11.82$). Concerning the Polish sample, we recruited 394 psychology students from Poland (323 women, 71 men, aged 18–71 years, $M = 28.38$, $SD = 9.11$) to participate in the online study in exchange for credit points.

Participants filled out the DepSter scale and the Social Dominance Orientation (SDO) Scale [80, 87]. The order of questionnaires and the order of items within questionnaires were randomized. Cronbach's α for the DepSter scale was acceptable for the depression literacy subscale (α = 0.52 in the UK sample and α = 0.78 in the Polish sample) and high for the misconceptions about depression subscale (α = 0.84 in the UK sample and α = 0.78 in the Polish sample).

The SDO scale (α = 0.91 for the UK sample, α = 0.91 for the Polish sample) is a one-dimensional tool and consists of 16 items (e.g., "Some groups of people are simply inferior to other groups" or "It's OK if some groups have more of a chance in life than others"). Participants marked their answers on a seven-point scale ranging from 1 = "Strongly disagree" to 7 = "Strongly agree".

Results

Correlation coefficients are presented in Table 4. Confirming our expectations, in the British sample, scores on SDO were correlated negatively with scores on the depression literacy subscale and positively with scores on the misconceptions about depression subscale, with the latter correlation being stronger than the former. Additionally, in the Polish sample, scores on the misconceptions about depression dimension positively correlated with SDO scores. The correlation between depression literacy and SDO, although negative, was not significant. However, the pattern of correlations was similar to that obtained in the British sample, with the correlation between SDO and misconceptions about depression being stronger than the correlations between SDO and depression literacy. These results provide further support for the convergent validity of the DepSter scale's dimensions' interpretation, confirming the distinct meaning of its factors, and providing a basis for future studies on this subject.

Study 9

This study aimed to further test the convergent and divergent validity of DepSter score interpretation by analyzing its relationships with the Big Five personality traits [88].

Personality traits are considered factors related to developing general stigmatizing attitudes [89]. Other studies suggest that low openness and high neuroticism increase prejudice and stereotyping. Furthermore, mental health literacy is associated with higher levels of openness [90]. Further studies supported these results and showed that high openness for experience predicts a low propensity to stigmatize mental disorders and develop stereotypical beliefs about them [70]. Therefore, we hypothesized that scores on the depression literacy dimension would be positively correlated with neuroticism and negatively correlated with openness, and the reverse pattern would be observed with scores on the misconceptions about depression. As depression literacy and misconceptions about depression are not personality traits, we expected these correlations to be relatively low.

Participants and procedure

Three hundred and sixty-four Polish adults (289 women and 75 men, aged 15–87 years, M=35.82, SD=12.20), participated in an online study without compensation. The link to the survey was distributed via multiple web pages, including social media platforms. We did not have specific assumptions concerning the sample size, however, we assumed that we would continue data collection for one week. Such a sample size is large enough to detect a correlation of 0.21 with p=.01 and a power greater than 0.95. The majority of participants had graduated from college (n=253); however, none of them had majored in psychology or medicine.

The participant's task was to fill out the DepSter scale and the Ten Item Personality Inventory (TIPI) [91, 92] in randomized order. The internal consistency of the DepSter dimensions was acceptable for the depression literacy subscale (α=0.65) and high for the misconceptions about depression subscale (α=0.78).

Results

As presented in Table 4, in line with our expectations, we observed a negative yet weak correlation between the scores on neuroticism and those on depression literacy, while misconceptions about depression correlated positively. We did not observe significant correlations between depression literacy scores and scores regarding openness to experience. However, we did observe a negative correlation between scores on the misconceptions about depression dimension and this trait. None of the remaining correlations with personality traits were significant.

Study 10

After establishing the structure and construct validity of DepSter score interpretation and its reliability operationalized as internal consistency, a further aim was to assess the test-retest reliability of the English and Polish versions of the scale. To accomplish this, participants who had previously completed the English version of DepSter were contacted after three weeks and asked to complete it again. Similarly, participants who had previously completed the DepSter scale in its Polish version were contacted three months later.

Participants and procedure

We calculated our sample size assuming that we wanted it to be large enough to detect a correlation of 0.4 at p=.01 with a power greater than 0.95, which gave us a sample size of 97 participants [56].

One hundred and twelve US participants (54 women, 58 men, aged 20–69 years, M=37.47, SD=10.85) filled out an English version of DepSter as a part of a larger study twice with a three-week break via Amazon Mechanical Turk in exchange for $1.60. One hundred and twenty-three participants (99 women, 24 men, aged 15–75 years, M=31.91, SD=11.36) filled out the Polish version of DepSter twice with a three-month break between the two measurements as a part of a larger online study without compensation.

Results

The internal consistency of the English version for misconceptions about depression was high, α=0.90 for the test and α=0.92 for the retest, and lower for depression literacy, α=0.56 and α=0.65, respectively. The internal consistency of the Polish version of the depression literacy dimension was acceptable for the test, α=0.66 and retest α=0.76, and α=0.73 and α=0.83, respectively, for misconceptions about depression.

Table 6 Fit indices for the two-factorial model of DepSter tested in three countries

Country	χ^2/df	RMSEA	90%CI	SRMR	TLI	CFI
PL	17.18	0.068	[0.065, 0.072]	0.032	0.95	0.94
US	5.12	0.099	[0.089, 0.109]	0.083	0.90	0.88
UK	5.06	0.067	[0.061, 0.074]	0.054	0.90	0.88

Table 7 Measurement invariance across country groups

Type of invariance	RMSEA	GFI	CFI	TLI	ΔRMSEA	ΔCFI	ΔTLI
Unconstrained model	0.070	0.994	0.942	0.931	-	-	-
Configural	0.071	0.994	0.940	0.928	0.001	0.002	0.003
Metric	0.071	0.993	0.934	0.929	< 0.001	0.006	−0.001
Scalar	0.084	0.991	0.901	0.902	0.013	0.034	0.028
Partial scalar (MiscD items released)	0.080	0.992	0.913	0.909	0.010	0.021	0.020
Partial scalar (MiscD + i4 + i6 released)	0.073	0.993	0.928	0.924	0.002	0.006	0.005

For the English version, the correlation between the test and retest was high for misconceptions about depression dimension, $r(112) = 0.87$, $p < .001$, and acceptable for the depression literacy dimension, $r(112) = 0.61$, all p-values < 0.001. For the Polish version, the correlations were lower, which undoubtedly resulted from a longer period between test and retest, respectively for misconceptions about depression $r(123) = 0.76$, and for depression literacy $r(123) = 0.47$, all p-values < 0.001.

These results indicated high test-retest reliability for the English and Polish versions of the DepSter misconceptions about depression subscale and satisfactory reliability for the depression literacy subscale. Overall, these results also attested to the scale's psychometric adequacy.

Auxiliary analyses: measurement invariance

As our data come from two language versions of the scale and three different countries, we conducted a measurement invariance analysis using multi-group CFA [93] to assess the psychometric equivalence of DepSter across country groups. First, we evaluated the model with two latent variables separately for participants from Poland ($n = 3451$), the US ($n = 420$), and the UK ($n = 898$) using merged samples from Studies 1–9 and the first wave of Studies 10a and 10b. We then examined the psychometric equivalence of DepSter across the three groups testing: [1] configural invariance, assuming the same factor structure in both groups; [2] metric invariance—additionally assuming equal factor loadings from items to latent variables; and [3] scalar invariance—additionally assuming equal intercepts for the items. We tested invariance using model fit and change in fit indices (i.e., ΔRMSEA, ΔCFI, and ΔTLI). Following Cheung and Rensvold [94] and Vandenberg and Lance [95], we assumed that a change in RMSEA of 0.015 or less and a change in CFI and TLI of 0.01 or less would mean that the two models did not differ; between 0.01 and 0.02 that the two models might have possibly differed; and greater than 0.02 that the two models definitely differed.

For the initial test of the model with two latent variables separately for participants from Poland, the US, and the UK, the maximum likelihood CFA for the Polish and the UK sample yielded an acceptable model fit with respect to most indices, while the model fit indices in the US sample were worse (see Table 6). We concluded that these results provided initial support for configural invariance, and we therefore, conducted a formal test of measurement invariance between participant groups (Table 7).

Regarding configural and metric invariance, the ΔRMSEA, ΔCFI, and ΔTLI were below 0.01, indicating that the structure of the scale and factor loadings of latent variables to items did not differ between country groups. However, we found no support for scalar invariance when we imposed constraints on item intercepts, which implied that at least some item intercepts differed between countries. Since we might expect that the misconceptions about depression are grounded in cultural beliefs to a greater extent than depression literacy, we further investigated whether partial scalar invariance could be achieved by releasing constraints on items from this subscale. We found that this resulted in partial scalar invariance with respect to ΔRMSEA, but not to ΔCFI and ΔTFI. We, therefore, continued the backward approach releasing constraints on items from the depression literacy subscale, and found that partially releasing the intercepts for item 4 ("Depression makes people lack the strength to do anything") and item 6 ("Depression is associated with great suffering") such that the intercepts were equal for the US and the UK, but different for the Polish sample, resulted in reaching partial scalar invariance.

Overall, we concluded that the measurement model was invariant across country groups with respect to configural and metric invariance. However, we reached only partial scalar invariance for the depression literacy subscale, and we found a lack of scalar invariance for the misconceptions about depression subscale. It is, therefore, possible to make cross-country comparisons concerning the correlation with other variables, although the results of comparison concerning mean scores should be treated with caution due to only partial scalar invariance.

Discussion

Contribution to understanding depression literacy

The current work introduces a new approach to measuring beliefs about depression, proposing a two-factorial model and related self-report measure to assess how people vary with regard to depression literacy and beliefs about depression. The paper's main focus was on developing and validating DepSter, which aimed to be a psychometrically reliable measure for use in further research. In ten studies (total N=4,688) conducted in three countries, we demonstrated that DepSter is a promising measure of both depression literacy and misconceptions about depression. The two-factorial structure of beliefs about depression was confirmed in four studies conducted on Polish, American, and British samples. In further studies, we established the convergent validity of measurement with DepSter. We found that both a high level of depression literacy and a low level of misconceptions about depression are related to mental health literacy, depression literacy measured with D-Lit, having experience with depression (either being diagnosed with depression or having contact with a person diagnosed with depression), empathetic sensitivity and perspective taking, and emotional stability. This pattern of results confirms that both depression literacy and misconceptions about depression measure some aspects of beliefs about depression. However, we also demonstrated that, although substantially correlated, the two dimensions of beliefs have divergent meanings. Interestingly, having a formal education in psychology differentiated the misconceptions about depression component, but not the depression literacy component. In other words, psychologists may have the same level of evidence-based knowledge concerning depression as non-psychologists. Still, at the same time, they do not incorporate much naïve, stereotypical, and culturally driven information concerning this disorder. This might mean that formal education concerning mental health issues makes people more immune to accepting depression-related information not grounded in scientific evidence. Furthermore, when testing DepSter's psychometric equivalence across the three groups (Poland, the US, and the UK), we found that the measurement model was invariant across the groups in terms of configural and metric invariance, but not scalar invariance: we achieved partial scalar invariance for the depression literacy subscale, and a lack of scalar invariance for the misconceptions about depression subscale. This latter finding means that people from the three countries scoring equally on the latent variable representing misconceptions about depression have different intercepts on the items from this subscale [96]. This is therefore an indirect confirmation that the misconceptions about depression are to some extent culturally driven.

As expected, we found that the two factors of DepSter have a different relationship to prejudice toward people with mental health illness, depression stigma, personal stigma, social dominance, and openness to experience; the correlations were more robust for misconceptions about depression than for depression literacy. Not surprisingly, basing one's knowledge on non-confirmed, stereotypical "facts" that lead to a distorted view of people who suffer from depression is mainly connected with the propensity to stigmatize these people. However, we do not know the causal relation between misconceptions about depression and stigmatization. On the one hand, accepting unproven knowledge and formulating a stereotypical view of depression might trigger one's negative perception of depressed individuals and enhance the propensity to stigmatize them. On the other hand, a high tendency to stigmatize might close one's mind and trigger confirmation bias when looking for information on depression. According to Nickerson [97], confirmation bias "connotes the seeking or interpreting of evidence in ways that are partial to existing beliefs, expectations, or a hypothesis in hand." This definition implies that confirmation bias is a purely cognitive phenomenon that amounts to a selective search for information and discrimination in its use. However, confirmation bias might also be seen as part of the broader phenomenon of "motivated reasoning" [98]. For example, research has shown that people engage in "motivated thinking" to defend their beliefs and preserve a positive view of themselves [99]. Thus, holding a prejudice toward people with depression might lead to a selective search for and discriminant use of information about depression, with a preference for information that puts depressed individuals in a negative light. At least to some extent, this reasoning is in line with the fact that misconceptions about depression correlated more strongly with social dominance orientation than did depression literacy. People high in social dominance orientation strain to gain control and power over others [100], especially those they perceive as a threat—this is the core of prejudice toward people with depression.

Our two-factorial model might contribute to explaining why some depression literacy interventions were not effective in reducing the perceived stigma of depression [101]. For example, Griffiths et al. [101] tested the effectiveness of a web-based depression literacy intervention on reducing the stigma associated with depression. They found that the effects of such an intervention on personal stigma were small (Cohen's d=0.11) and did not affect perceived stigma. Furthermore, the effects were not mediated by the level of depression literacy measured with D-Lit. We believe that these null results might stem from the fact that the intervention used by the authors provided evidence-based information about depression, including its symptoms, general and specific sources of help, and medical and psychological treatments for depression. The site also indicated that depression is an illness and emphasized that depression can and should be treated as such [29]. However, all this information refers to depression literacy, not to misconceptions about depression which are closely associated with personal stigma. Therefore, even if the intervention affected evidence-based knowledge about depression, it might not attenuate misconceptions about depression that are rooted in cultural beliefs and stereotypes, and hence, not lead to the desired effect on stigma. Accordingly, we see a need for more fine-tuned intervention programs aiming specifically at increasing depression literacy or decreasing misconceptions. Furthermore, it is possible that exposure to evidence-based knowledge might trigger a level of depression literacy only when individuals do not hold a stereotypical view (misconceptions) of depression, i.e., they are open to new, evidence-based information. This proposition should be tested in further empirical programs.

Limitations and further directions of research

DepSter was designed as a short and easily implementable self-report tool allowing for wide use in research, especially in the social perception of those diagnosed with depression. The fact that DepSter scale is short might have led to the relatively low Cronbach's α values in some of our studies. However, as the results of test-retest correlations over three weeks and three months are more than satisfactory, we believe that these low α values do not indicate low reliability of the scale, but are rather the result of heterogeneity. Furthermore, self-report measures come with their own limitations, and their use should be supplemented by other, possibly more objective measures when possible. It is also a limitation of the current work that when validating the DepSter scale, its factors relied entirely on self-report measures. Hence, the extent to which the scores on DepSter are associated with actual attitudes, judgments, or preferences is uncertain. A significant research direction for the future is to utilize behavioral measures to test the scale's construct validity further.

Another limitation of our work is that we tested DepSter in online samples only, altering the way we recruited our participants, including paid online panels such as Polish Ariadna, Prolific Academic, and Amazon Mechanical Turk together with student samples and voluntary recruitment via social media. Although the quality of the data obtained from online labor markets has been questioned, research demonstrates that data collected on Prolific Academic is valid and equivalent to data collected via traditional methods [102–104]. However, it would be interesting to see whether the paper-and-pencil version of the scale has similar psychometric characteristics to its online version.

Although we tested our scale in three different cultural contexts, i.e., Poland, the US, and the UK, the evidence for its two-factorial structure is mixed, with the fit indices suggesting the best fit is in the British sample, followed by the Polish sample, with the American sample providing a worse fit to the bi-dimensional model. We believe that this might be because the American sample was the smallest in size, and we used Amazon MTurk for data collection. Unfortunately, MTurk received some criticism for a decrease in data quality around the time we collected these data [45], and this might have been something that we saw in the result of this study. However, the first Polish sample was relatively homogenous, with a majority of women (82% of the participants). Furthermore, only one of our samples was representative of the society we investigated (Study 2, the Polish sample), we did not preregister our studies, and in most cases, we did not collect detailed information about our participants, such as their ethnicity, education level, socio-economic status, etc. For further preregistered studies, we also wish to collect data from more diverse samples, controlling for additional sociodemographic factors, to allow for better generalization of the results and broader use of the DepSter scale. In particular, we would like to collect data from culturally diverse samples that would be comparable in terms of their representativeness for the respective populations to verify the measurement invariance and potentially allow for cross-cultural comparisons.

Moreover, although we demonstrated that beliefs' about depression are differentiated by whether the person had contact with people diagnosed with depression or were diagnosed with depression themselves or not, and by the major of education, the cross-sectional design of our studies did not allow for any causal claims. Thus, we would also like to examine the development of beliefs about depression in longitudinal and experimental studies, allowing for such conclusions. For example, it would be interesting to determine whether people who choose to become psychologists have better depression literacy even before starting their education or whether psychological or medical education strengthens their depression literacy. Furthermore, we also wish to examine the short- and long-term predictive value of DepSter and its dimensions for social behavior regarding depressed people and for help-seeking under challenging times.

Conclusions

Beliefs about depression are a very important topic in mental health research. This importance stems from the fact that this construct is related not only to attitudes toward people who are diagnosed with depression but also to the propensity to stigmatize this mental disorder. In this work, we elaborated on different dimensions of beliefs about depression and introduced the DepSter scale, a 14-item measure of beliefs about depression, which consists of both depression literacy and misconceptions about depression. The initial evidence for the validity and reliability of the scale is very encouraging and suggests that DepSter can be successfully used to measure overall beliefs about depression and can be used by anyone (e.g., researchers, clinicians) interested in understanding the structure, causes, and consequences of depression literacy. We look forward to future research with DepSter and hope that it will contribute to efforts aimed at enhancing depression literacy and hindering misconceptions about depression among the general public.

Abbreviations

ADKQ	Adolescents Depression Knowledge Questionnaire
CFA	Confirmatory Factor Analysis
DepSter	Depression Literacy and Misconceptions Scale
DL	Depression Literacy measured with DepSter
D-Lit	Depression Literacy Questionnaire
DSM	Diagnostic and Statistical Manual of Mental Disorders
HLS-Q6	Health Literacy Survey
ICD	International Classification of Diseases
MHLS	Mental Health Literacy Scale
MiscD	Misconceptions about Depression measured with DepSter
PPMI	Prejudice towards People with Mental Illness
SDO	Social Dominance Orientation
TIPI	Ten Item Personality Inventory

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12888-023-04796-8.

Supplementary Material 1: Depression Literacy and Misconceptions Scale (DepSter)

Supplementary Material 2: Skala Przekonań na Temat Depresji (DepSter)

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Authors' contributions

Katarzyna Kulwicka: funding acquisition, conceptualization, investigation, writing—original draft, review, and editing; Agata Gasiorowska: conceptualization, methodology, writing—original draft, review, and editing.

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Data Availability

The datasets supporting the conclusions of this article are available in the Research Box repository, https://researchbox.org/691.

Declarations

Ethics approval and consent to participate

We confirm that the all studies were conducted in a manner consistent with the Declaration of Helsinki, the American Psychological Association's Ethical Principles in the Conduct of Research with Human Participants (2010), and were approved by the Ethics Committee at Wroclaw Faculty of Psychology, SWPS University of Social Sciences and Humanities (Decision 02/E/12/2018). We confirm that informed consent was obtained from all participants.

Consent for publication

Not applicable.

Competing interests

On behalf of all authors, the corresponding author states that there is no conflict of interests.

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Publisher's Note

Appendix

Skala Przekonań na Temat Depresji (DepSter)

Używając poniższej skali, zaznacz, do jakiego stopnia zgadzasz się z poniższymi twierdzeniami

1	2	3	4	5
Zdecydowanie się nie zgadzam	Nie zgadzam się	Ani się nie zgadzam, ani się zgadzam	Zgadzam się	Zdecydowanie się zgadzam

1) Depresja jest chorobą
2) Depresja to zwykła fanaberia
3) Depresja może dotknąć każdego
4) Depresja to tylko chwilowe pogorszenie samopoczucia
5) Depresja sprawia, że ludzie tracą zainteresowanie nawet tymi rzeczami, które kiedyś sprawiały im radość
6) Depresja dotyka tylko ludzi słabych, którzy nie radzą sobie z własnym życiem
7) Depresja sprawia, że ludzie nie mają siły do zrobienia czegokolwiek
8) Wystarczy silna wolna, żeby pozbyć się depresji
9) Osoby, które mają depresję, często myślą o samobójstwie
10) Wystarczy wziąć się w garść, żeby pozbyć się depresji
11) Depresja wiąże się z ogromnym cierpieniem
12) Leki przeciwdepresyjne działają od razu po zażyciu

13) Depresja to użalanie się nad sobą

14) Osoby, które mają depresję, są słabe psychicznie

Klucz odpowiedzi:

Depression Literacy (DL): Średnia z 1, 3, 5, 7, 9, 11

Błędne przekonania na temat depresji (MiscD): Średnia z 2, 4, 6, 8, 10, 12, 13, 14

Appendix

Depression Literacy and Misconceptions Scale (DepSter)

Please Indicate Your Agreement with The Following Statements Using the Scale Below

1	2	3	4	5
Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree

1) Depression is an illness
2) Depression is just a fad
3) Depression can affect anyone
4) Depression is just a temporary mood deterioration
5) Depression makes people lose interest even in the things they used to enjoy doing
6) Depression affects only the people who are weak and cannot cope with their life
7) Depression makes people lack the strength to do anything
8) To overcome depression, all you need is willpower
9) People with depression often think about suicide
10) To overcome depression, all you need is to get yourself together
11) Depression is associated with great suffering
12) Antidepressant medication start to work right after the intake
13) Depression is just a self-pitty
14) People with depression are mentally weak

Scoring:

Depression Literacy (DL): Average of 1, 3, 5, 7, 9, 11

Misconceptions About Depression (MiscD): Average 2, 4, 6, 8, 10, 12, 13, 14

Beyond the label: The moderating role of beliefs about depression on the impact of labeling and diagnosis on public perceptions of people with depressive symptoms

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Abstract

Purpose: This study investigated how the use of the label "depression" and information about a medical diagnosis influance laypeople's perception of individuals with depressive symptoms. We examined whether these perceptions—specifically viewing the condition as legitimate depression and as a medical condition—are moderated by participants beliefs about depression – depression literacy and misconceptions about the disorder.

Methods: The study employed a 2x2 between-subjects experimental design with 1,351 participants. Participants read a vignette describing a person with depressive symptoms, which was manipulated with the label "depression" and information about a formal medical diagnosis. Beliefs about depression were measured using the DepSter scale.

Results: Formal medical diagnosis significantly increased the perception that the individual had depression. The label "depression" only increased this perception when it was accompanied by a diagnosis. Conversely, when a diagnosis was present, the "depression" label decreased the perception that the person was experiencing a legitimate medical condition. These effects were not significantly moderated by participants' depression literacy or misconceptions about depression, though there was a slight trend suggesting that more misconceptions about depression were linked to viewing the condition as less medical when a diagnosis was given.

Conclusion: Formal medical diagnosis is the most critical factor in how laypeople legitimize depressive symptoms as a disorder. The common label "depression," when used alone, does not carry the same weight and can even reduce the perceived medical seriousness of the condition when a diagnosis is confirmed.

Key words

Labelling, depression, beliefs about depression, depression literacy, misconceptions about depression

Introduction

Over the years, the academic community has extensively explored the consequences of labeling for people diagnosed with mental disorders [1,2]. The classical labeling theory of mental illness [3] pointed out that when a person is labeled as “mentally ill”, they tend to internalize prevailing stereotypes about mental illness and form a durable identity around the “mentally ill” role. The modified labeling theory of mental disorders [4] focused on how the labeling process leads to negative societal response toward those diagnosed with mental disorders, such as negative attitudes [5], greater desire for social distance [6,7], and developing the stigma around mental disorders [8,9]. Despite extensive research on the social consequences of psychiatric labeling, we still understand relatively little about how this process shapes public perception of mental disorders. A recent study by Kulwicka et al. [10] examined how the label “depression” and information about medical diagnosis influence how laypeople perceive individuals with depressive symptoms, and found that participants were less likely to perceive the person as having depression when symptoms were explicitly labeled as “depression” but an information about a medical diagnosis was not provided (vs. when it was provided). However, when both the label and diagnosis were present, participants were less likely to view the symptoms as indicating a legitimate medical condition compared to when the diagnosis omitted the term “depression.” In the present study, we extend this research by investigating whether depression literacy and misconceptions about depression moderate the effects of labeling and diagnosis on perceptions of people with depressive symptoms.

Labeling, depression, and the perception of people with depressive symptoms

For several decades, a substantial body of research has been devoted to a comprehensive examination of the various consequences, both social and psychological, that result from the diagnostic labeling of individuals diagnosed with mental disorders [1].

Labeling leads to the perception of those diagnosed with mental disorders as socially maladaptive, unpredictable, and dangerous [11]. These negative perceptions are not uniform across diagnoses; attributions of unpredictability and dangerousness are more strongly associated with schizophrenia than with depression [12–14]. This distinction is also reflected in assessments of stereotyped traits, where individuals with depression are perceived as warmer and more competent than those with schizophrenia [15]. Consequently, such perceptions influence behavioral intentions, with the public generally expressing greater prosocial inclinations (e.g., willingness to help) depending on the label used [16].

The vast amount of literature indicates how different diagnostic labeling leads to stigmatization and negative social consequences for people diagnosed with mental disorders (Veldmeijer *et al.*, 2025). There is also a large body of research on the psychological consequences of the labeling process, its relation to future planning and taking action (e.g., help-seeking or making lifestyle changes) not only for the individuals who are labels, but also for their family members, health-providers and the community [2,19]. However, to the best of our knowledge, only one study has examined how labeling affects laypeople's perception of individuals experiencing symptoms of a certain disorder and the legitimacy of this condition. Kulwicka et al. [10] presented participants with descriptions of a person displaying symptoms of depression based on diagnostic criteria, manipulating whether the label "depression" and information about medical diagnosis were included. The results revealed a paradoxical pattern: participants were less likely to perceive the protagonist as having depression when symptoms were labeled as "depression," but no medical diagnosis was provided, than when such a diagnosis accompanied the label. However, when both the label and diagnosis were present, participants actually viewed the condition as less medically legitimate compared to when a physician's diagnosis described the same symptoms without using the term "depression." This pattern held constant across three experiments and English-speaking different populations. These findings suggest that everyday use of „depression" to describe common sadness may undermine the perceived legitimacy of clinical depression, even when diagnosed by a physician. Notably, Kulwicka et al. [10] were unable to identify individual differences moderating these effects, having examined only personal depression experience as a potential moderator. The present study extends this work by investigating whether beliefs about depression—specifically depression literacy and misconceptions—moderate the effects of labeling and diagnosis on perceptions of depressive symptoms as indicating a legitimate medical condition.

Beliefs about depression – depression literacy and misconceptions about depression

Mental health literacy is one of the most well-established research traditions in the study of public understanding of mental disorders [20,21]. Classically, it was defined as the specific knowledge and beliefs about mental disorders (e.g., depression) that facilitate their recognition, management, and prevention [22]. Later, this concept was extended to include understanding how to obtain and maintain positive mental health, learning about mental disorders and their treatments, working to decrease related stigma, and enhancing one's ability to seek help effectively by knowing when and where to go and developing skills for self-management [23]. Although the classical definition emphasized that mental health literacy consists of both knowledge and beliefs, traditional instruments for measuring this construct, such as the Mental Health Literacy Scale (MHLS) [24] or the Depression Literacy Questionnaire (D-lit) [25,26], fail to differentiate between the two. These tools tend to conflate evidence-based knowledge with beliefs, which may encompass non-scientific or culturally-bound concepts. This differentiation seems crucial, especially for mental disorders frequently mentioned in public debate—such as depression [27]—which tend to lose their original clinical significance as they gain traction in popular discourse, turning into so-called "concept creep" [28,29].

A novel, two-factor model for measuring beliefs about depression, challenging the traditional unidimensional approach to mental health literacy, is introduced in the DepSter scale [21,30]. This tool distinguishes between Depression Literacy (accurate, evidence-based, scientifically validated knowledge about the causes, symptoms, and treatments of depression), and Misconceptions about Depression (culturally specific stereotypical beliefs are not grounded in scientific evidence). The authors argue that classic models combining these into a single "literacy" score fail to capture the full spectrum of public belief and its implications for stigma and help-seeking behaviors. Kulwicka and Gasiorowska [30] found that misconceptions about depression were strongly correlated with prejudice towards individuals with mental illness, personal stigma, and social dominance orientation. In contrast, depression literacy showed a weak or non-significant relationship with these measures. This suggests that stereotypical beliefs, rather than a simple lack of factual knowledge, might drive stigmatizing attitudes. Moreover, individuals with formal psychology training did not show higher levels of depression literacy than other university graduates but exhibited lower levels of misconceptions [30]. This suggests that formal education may be more effective at reducing stereotypical thinking than at increasing factual knowledge beyond baseline. However, personal experience with depression was associated with both higher literacy and markedly lower misconceptions. These findings underscore the critical importance of distinguishing between factual knowledge and culturally ingrained stereotypes, and suggest that beliefs about depression, along with the label and information about medical diagnosis, might shape public perception of whether people with depressive symptoms are legitimately experiencing depression and a medical condition.

Present study and research hypothesis

This study aimed to investigate whether the label "depression" and information about medical diagnosis affect lay perception of people with depressive symptoms as legitimately experiencing depression and a medical condition, and whether these effects are moderated by depression literacy and misconceptions measured with the DepSter scale [30]. We hypothesized a significant label × diagnosis interaction on perceived depression, such that (H1a) a protagonist would be perceived as having depression to a greater extent in the label condition than in the no-label condition, and (H1b) this effect would be weaker or even insignificant without information about medical diagnosis. We expected (H2) these effects would be moderated by the level of participants' beliefs about depression: (H2a) participants scoring higher on the depression literacy would perceive protagonists as more likely to have depression, regardless of label and diagnosis, whereas the labeling effect would be more pronounced for those scoring lower on literacy. Furthermore, (H2b) we hypothesized that participants scoring higher on misconceptions would perceive protagonists as less likely to have depression, regardless of the label, whereas those scoring lower would show stronger effects of the label. We had no specific expectations regarding interactions between misconception and diagnosis. Finally, we expected (H3) a significant label × diagnosis interaction on ascribed medical condition, such that protagonists would be perceived as having a medical condition to a higher extent in the diagnosis condition than in the no-diagnosis condition, with this effect weaker when the label is used. In an exploratory manner, we tested whether depression literacy and misconceptions about depression moderated these effects.

Method

We estimated the sample size by using a priori power analysis with G*Power software [31], conservatively assuming an interaction effect of $\eta^2 = .01$, an expected power of .80, and a significance level of .05. Based on this analysis, our sample size should include 195 participants in each experiment condition in a 2 × 2 between-subject design. However, as we include a continuous moderator in our analysis and this moderator was measured in a separate wave (requiring potential attrition to be accounted for), we aimed to double the sample and recruit 1560 participants.

We recruited *N* = 1570 (683 women, 850 men, 30 other, 6 prefer not to disclose their gender) aged 18-69 (*M* = 27.01; *SD* = 7.48) Polish participants via Prolific Academic to participate in the first part of the study in exchange for £0.30. In this part, participants answered demographic questions and filled out the DepSter [30], together with one attention check (“Enter today’s date”). Based on the answer to this question, three participants were excluded. After one week, the remaining participants were invited to the second part of the study in exchange for £0.80. In this part, they provided informed consent and were assigned to one of four conditions in a 2 (label vs. no label) × 2 (medical diagnosis vs. no diagnosis) between-subjects design. Then they read a brief vignette describing a woman named Malgorzata experiencing symptoms consistent with DSM-5 criteria for depression, including depressed mood, sleep disturbances, fatigue, loss of interest in previously enjoyed activities, concentration difficulties, and relationship problems. The symptoms were described in plain language, without actual reference to formal diagnostic criteria. The vignette’s final passage varied by condition: in the control condition (*n* = 326), Malgorzata simply wondered what was happening to her; in the "label, no diagnosis" condition (*n* = 321), she wondered whether she might have depression; in the "diagnosis, no label" condition (*n* = 335), a doctor diagnosed her symptoms as due to a medical condition; and in the "label and diagnosis" condition (*n* = 369), a doctor diagnosed her symptoms as due to depression (see Supplementary materials for full wording).

Next, participants were asked to answer three questions about the content of the story that served as attention checks (see Supplementary materials for full wording). Based on their responses to these comprehension checks, *n* = 216 participants were excluded from further analysis**.** The final sample included *N* = 1351 participants (588 women, 732 men, 26 other, and 5 who preferred not to disclose their gender) aged 18-69 years (*M* = 27.12, *SD* = 7.64).

In the final step, participants were asked to answer eight questions presented in randomized order. Four of them measured the perception of the protagonist as having depression (*M* = 80.07, *SD* = 14.46, α = .83). The remaining four measured the perception of the protagonist as having a medical condition (*M* = 72.20, *SD* = 18.33, α = .90). Participants answered these questions using a scale from 0 = "Very improbable" to 100 = "Very probable" (see Supplementary materials for full wording). These two sets of questions were averaged to serve as the two dependent variables.

Results

We conducted two path analyses to examine whether the effects of label and information about medical diagnosis are moderated by participants' depression literacy and misconceptions about depression. We used label and diagnosis manipulation and their interaction as predictors, and the two dimensions of DepSter (correlated) as moderators. As the distribution of our dependent variable was not normal, we used a Bayesian estimator in Mplus 8.10.

The first model, with ascribed depression as the dependent variable, was well-fitted to the data, with RMSEA =.031, 90% CI [.026, .038], CFI = .97, and TLI = .956, and accounted for R^2 = 22.9% of the DV variance. As presented in Table 1, the main effect of the label was significant and positive, indicating that participants in the label condition assessed the probability of Malgorzata having depression as higher than those in the no label condition. The main effect of medical diagnosis was significant and positive, such that participants in the diagnosis condition assessed the probability that Malgorzata might have depression as higher than participants in the no diagnosis condition. The interaction between the label and the information about the medical diagnosis was also significant.

Concerning the dimension of belief about depression, we found a significant and positive main effect of depression literacy, and a significant but negative effect of misconceptions about depression. Importantly, the effect of depression literacy was stronger than the effect of misconceptions about depression. We also found a significant interaction between label and depression literacy, with no such interaction for misconceptions about depression. No other interactions were significant.

Table 1 here

The decomposition of the interaction between label and diagnosis revealed that in the no diagnosis condition, the label effect was not significant (β = –.02, *SD* = .03, 95% CI [–.09, .05], *p* = .544). However, in the diagnosis condition, the effect of the label was significant and positive (β = .15, *SD* = .03, 95% CI [.09, .22], *p* < .001). Alternative decomposition revealed that in the label condition, the effect of diagnosis was significant and positive (β = .26, *SD* = .03, 95% CI [.20, .33], *p* < .001). In the no-label condition, the effect of diagnosis was significant but weaker (β = .09, *SD* = .03, 95% CI [.03, .16], *p* = .004).

The decomposition of the interaction between label and depression literacy using the pick-a-point approach revealed that the effect of label at the lowest level of the moderator (*M* - 1*SD* = 3.86) was significant (β = .13, Posterior *SD* = .04, 95% CI [.05, .20], *p* < .001), such that participants with lowest level of depression literacy assessed the probability of Malgorzata as having depression as higher when the label was provided than when it was not (see Figure 1). For the moderate level of the moderator (*M* = 4.31), the effect was also significant but weaker, β = .06, Posterior *SD* = .02, 95% CI [.02, .11], *p* = .006, while for the highest level of the depression literacy (*M* + 1*SD* = 4.76) it was not significant, β = .003, Posterior SD = .04, 95% CI [–.07, .08], *p* = .936 (see Figure 1).

Figure 1 here

The second model, with ascribed medical condition as the dependent variable, was also well-fitted to the data, with RMSEA =.031, 90% CI [.026, .038], CFI = .97, and TLI = .95, and accounted for R^2 = 18.4% of the DV variance.

As presented in Table 2, the main effect of the label was significant, indicating that participants in the label condition assessed the probability of Malgorzata having a medical condition as lower than those in the no-label condition. The main effect of medical diagnosis was significant and positive, as participants in the diagnosis condition assessed the probability that Malgorzata might have a medical condition as higher than those in the no diagnosis condition. The interaction between the label and the information about the medical diagnosis was also significant. We also found the significant and positive main effect of depression literacy, and a significant but negative effect of misconceptions about depression. For this dependent variable, the effect of misconceptions about depression was stronger than that of depression literacy. Moreover, we found two significant interactions with DepSter dimensions: between label and depression literacy, and between diagnosis and misconceptions about depression. The three-way interaction between label, diagnosis, and misconceptions about depression was marginally significant (Table 2).

Table 2 here

The decomposition of the interaction between label and diagnosis revealed that the effect of the label was insignificant in the no diagnosis condition ($\beta = .02$, *SD* = .04, 95% CI [–.05, .09], $p = .630$). However, in the diagnosis condition, the effect of the label was significant and negative (β = –.15, *SD* = .03, 95% CI [–.21, –.08], *p* < .001). Alternative decomposition revealed that the diagnosis was significant regardless of the label's presence. In the no label condition, the effect of diagnosis was significant and positive (β = .27, *SD* = .03, 95% CI [.20, .33], *p* < .001). In the label condition, this effect was weaker, though still significant (β = .10, *SD* = .04, 95% CI [.04, .17], *p* = .004).

Further decomposition of the interaction between diagnosis and misconceptions about depression using the pick-a-point approach revealed that the effect of diagnosis at the lowest level of the moderator (*M* - 1*SD* = 1.12) was significant, β = .25, Posterior SD = .04, 95% CI [.17, .32], *p* < .001, such that participants with the lowest level of misconceptions about depression assessed the probability that Malgorzata might have a medical condition as higher when the information about a medical diagnosis was provided than when it was not. For the moderate level of the moderator (*M* = 1.71) the effect was also significant, β = .18, Posterior SD = .03, 95% CI [.14, .23], *p* < .001. For the highest level of misconceptions about depression (*M* + 1*SD* = 2.30), it was also significant but much weaker (β = .12, Posterior SD = .04, 95% CI [.04, .20], *p* = .002) (see Figure 2).

Figure 2 here

Discussion

In this study, we investigated whether the label and information about medical diagnosis affect lay perception of people with depressive symptoms as legitimately experiencing depression and a medical condition, and whether these effects are moderated by depression literacy and misconceptions about depression. We found that a formal medical diagnosis significantly increased the perception that the individual had depression. The label “depression” only increased this perception when it was accompanied by a diagnosis.

Conversely, when a diagnosis was present, the “depression” label decreased the perception that the person was experiencing a legitimate medical condition. Additionally, we found significant main effects of both dimensions of beliefs about depression: depression literacy was positively associated with perceiving the protagonist as having depression and a medical condition, while misconceptions about depression were negatively associated with both outcomes. Importantly, the effect of depression literacy on ascribed depression was stronger than the effect of misconceptions about depression. However, for ascribed medical condition, the effect of misconceptions about depression was stronger than that of depression literacy.

While depression literacy and misconceptions did not moderate the label × diagnosis interaction, we found two significant two-way interactions. First, depression literacy moderated the label effect on perceived depression: the label increased perceived depression most strongly among participants with low literacy, less so among those with moderate literacy, and not at all among those with high literacy. Second, misconceptions moderated the diagnosis effect on perceived medical legitimacy: although diagnosis increased legitimacy across all levels, this effect was strongest among participants with few misconceptions and progressively weaker among those with more misconceptions. In summary, higher depression literacy reduced susceptibility to informal labeling effects, while lower misconceptions enhanced responsiveness to the legitimizing power of medical diagnosis.

Theoretical contribution

Our findings align with and extend Kulwicka et al. [10], who demonstrated similar paradoxical effects of depression labeling across three experiments with over 3,700 participants from the US and the UK. Like their study, we found that the “depression” label weakened the effect of medical diagnosis on perceived legitimacy of the condition. However, we extended this work by investigating potential moderators—specifically, beliefs about depression measured with the DepSter scale [30].

The DepSter scale's dual-dimensional framework offers insight into why the labeling effect persists regardless of individual differences in depression knowledge. The scale distinguishes between depression literacy (evidence-based knowledge) and misconceptions about depression (culturally driven stereotypical beliefs). These dimensions have distinct relationships with stigma: misconceptions strongly correlated with prejudice toward mental illness, personal stigma, and social dominance orientation, while depression literacy showed weak or non-significant relationships [30]. This suggests that stereotypical beliefs, rather than simply a lack of factual knowledge, drive stigmatizing attitudes.

Our findings confirm these differential relationships in the context of symptom perception and legitimacy judgments. Misconceptions had stronger effects than literacy on perceived medical legitimacy, suggesting that culturally-driven stereotypical beliefs particularly influence whether people view depressive symptoms as medically legitimate. This aligns with the results showing that misconceptions, not literacy, primarily drove stigmatizing attitudes. Holding stereotypical (e.g., “depression is just a fad,” “overcome depression just requires willpower”) directly undermines perception of depression as a legitimate medical condition, even when a formal diagnosis is present.

Importantly, we found that beliefs about depression moderate specific aspects of the labeling and diagnosis process in theoretically meaningful ways. Depression literacy moderated the effect of the label itself: individuals with lower depression literacy were more influenced by the mere presence of the label “depression,” whereas those with higher depression literacy appeared to be less swayed by labeling alone. This suggests that evidence-based knowledge about depression may provide some protection against the influence of labeling. However, it does not eliminate the paradoxical effect of the label when paired with a diagnosis. Conversely, misconceptions about depression moderated the effect of medical diagnosis on perceived legitimacy: individuals with higher misconceptions were less responsive to the legitimizing effect of a medical diagnosis. This finding is particularly concerning from a public health perspective, as it suggests that stereotypical beliefs about depression may undermine not only lay perceptions but also the authority of professional medical judgment.

These patterns suggest a more nuanced picture than initially hypothesized. While beliefs about depression do not moderate the core paradoxical interaction between label and diagnosis documented by Kulwicka et al. [10], they are associated with the constituent effects: literacy is related to susceptibility to labeling, while misconceptions are related to responsiveness to medical diagnosis. This dissociation makes theoretical sense: literacy represents explicit knowledge that may be associated with more critical evaluation of informal labels, while misconceptions represent deeply held stereotypical beliefs that may persist even in the presence of professional medical authority.

The findings may also reflect Haslam and Tse's [29] documentation of "concept creep" of depression—this term increasingly appears in semantic contexts, blurring boundaries between everyday emotions and clinical conditions. When encountering the label "depression," public may automatically activate associations with common emotional experiences rather than severe psychiatric conditions, reducing perceived medical legitimacy. However, our findings suggest this activation is stronger among individuals with lower depression literacy and those with higher misconceptions, indicating that explicit beliefs do play a moderating role in specific aspects of the labeling process.

The persistence of the core labeling-diagnosis interaction across different levels of depression literacy and misconceptions has important implications for understanding the limited effectiveness of some mental health literacy interventions. As Griffiths et al. [25] demonstrated, providing evidence-based information about depression does not always reduce stigma or improve help-seeking attitudes. Our findings suggest this may be because increasing depression literacy alone—while helpful in reducing susceptibility to informal labeling—does not address the fundamental paradox whereby “depression” itself undermines medical legitimacy. Future interventions might need to specifically address the distinction between clinical depression and everyday sadness, actively dismantling the automatic associations undermining the perceived legitimacy of depression as a medical condition.

Furthermore, the finding that formal education in psychology differentiates misconceptions but not literacy [30] suggests that professional training may be more effective at reducing stereotypical thinking than at increasing factual knowledge beyond a certain baseline. This has important implications for anti-stigma campaigns and professional education programs. Our results suggest that such efforts should prioritize reducing misconceptions, as these stereotypical beliefs appear to have a particularly strong negative impact on perceptions of depression as a legitimate, and may even undermine the legitimizing effect of professional medical diagnosis.

Strengths and limitations

A major strength of our study is its attempt to identify moderators of the labeling effect using a validated, multidimensional measure of beliefs about depression. The use of the DepSter scale, validated across over 4,600 participants in multiple countries ([30], represents a methodological advancement over previous research that typically assessed mental health literacy unidimensionally. Our study also benefits from a large sample size and experimental design, providing strong internal validity. Additionally, our finding of specific moderating effects—with depression literacy altering labeling effects and misconceptions altering diagnosis effects—provides nuanced insights into how beliefs about depression shape perceptions of symptom legitimacy.

However, several limitations should be acknowledged. First, our reliance on vignette-based methodology, while providing experimental control, cannot capture the dynamic nature of real-world interactions where contextual factors, non-verbal cues, and interpersonal relationships may significantly influence how depression labels and diagnoses are perceived. Second, we did not explore other potential moderators such as general health literacy, trust in medical professionals, or beliefs about other mental disorders. Third, our sample was limited to relatively young Polish participants, which restricts the generalizability of our findings. Fourth, we did not manipulate or examine the gender of the protagonist, despite evidence that gender may moderate some labeling effects [10]. Fifth, while we found significant two-way interactions between beliefs and label/diagnosis effects, the three-way interaction was not significant, suggesting that the core paradoxical effect documented by Kulwicka et al. [10] operates independently of individual differences in beliefs about depression.

Conclusion

This study shows that formal medical diagnosis is crucial for legitimizing depression, but the label "depression" itself can paradoxically reduce perceived medical seriousness. This paradox operates independently of people's depression knowledge and misconceptions, suggesting it stems from cultural discourse where "depression" denotes both clinical diagnosis and everyday sadness. However, individual beliefs matter in specific ways: better depression knowledge reduces susceptibility to informal labeling, while fewer misconceptions enhance responsiveness to medical diagnosis. Misconceptions—especially stereotypes—directly undermine perceived legitimacy and weaken the legitimizing power of professional diagnosis.

Clinically, practitioners should use more specific terminology (e.g., "major depressive disorder") to distinguish medical conditions from everyday sadness. Public health campaigns should both increase depression literacy and actively reduce stereotypical misconceptions that undermine the condition's medical legitimacy. Future research should examine cross-cultural variations and develop interventions addressing both cultural framing and misconceptions about depression.

Author contributions

Katarzyna Kulwicka: funding acquisition, conceptualization, investigation, formal analysis, writing - original draft, review & editing; **Agata Gasiorowska:** supervision, conceptualization, methodology, formal analysis, writing - original draft, review, & editing

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Statement of ethics

This project was accepted by the Ethics Committee at the Faculty of Psychology in Wroclaw, SWPS University.

Data availability

The dataset and analysis code are available in the Research Box repository at https://researchbox.org/4738&PEER_REVIEW_passcode=TUCYAV

Declarations

Competing interest: The authors declare no competing interests.

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Supplementary materials

for the paper entitled

Beyond the label: The moderating role of beliefs about depression on the impact of labeling and diagnosis on public perceptions of people with depressive symptoms

Procedure

Vignette (original):

Wyobraź sobie, że jakiś czas temu na imprezie poznałaś/łeś Małgorzatę. Uznałaś/łeś, że Małgorzata jest interesującą osobą i miło spędziłyście/spędziliście czas na rozmowie. Dowiedziałaś/łeś się, że Małgorzata pracuje na pełen etat, lubi swoją pracę i jest w szczęśliwym długotrwałym związku. Kilka tygodni później zadzwoniłaś/łeś do Małgorzaty, żeby zaprosić ją na obiad. Małgorzata uprzejmie odmówiła, mówiąc, że ostatnio jest w gorszym nastroju niż zazwyczaj. Wspomniała również, że nie śpi dobrze i jest zmęczona przez większość dnia. Później powiedziała Ci także, że z jakiegoś powodu nie jest już tak bardzo zadowolona ze swojej pracy, choć w samej pracy nic się nie zmieniło. Dodała też, że ma problemy ze skupieniem się i nie może nawet czytać książek, co dotąd było jej największym hobby. Co gorsza, stwierdziła, że jej związek nie jest już dla niej satysfakcjonujący. Zauważyła, że jest ciągle zirytowana na swojego partnera i czuje się winna z tego powodu.

No Label × No Diagnosis (Control): Małgorzata zastanawia się, co się z nią dzieje.

Label × No Diagnosis: Małgorzata zastanawia się, czy ma depresję.

No Label × Diagnosis: Małgorzata poszła do lekarza i lekarz zdiagnozował, że to, w jaki sposób się czuje wynika z powodów medycznych.

Label × Diagnosis: Małgorzata poszła do lekarza i lekarz zdiagnozował, że to, w jaki sposób się czuje wynika z depresji.

Vignette (translation)

Imagine that some time ago, you met at a party someone named Margaret. You found Margaret interesting, and you had a good time talking to each other. You found out that Margaret has a full-time job that she likes and is in a happy long-term relationship.

A few weeks later, you called Margaret to invite her for lunch. Margaret kindly refused, saying that she had recently been in a worse mood than usual. She also mentioned that she doesn't sleep well and is tired for most of the day. Later she also told you that somehow, she is not so satisfied with her/his job anymore, even if nothing at work had changed. She added that she has problems with concentration and cannot even read books, which used to be her biggest hobby. Even worse, she claimed that her relationship was not so satisfying anymore. She noticed that she is constantly irritated with her/his partner, feeling guilty about it.

No Label × No Diagnosis (Control): Margaret wondered what was going on with her.

Label × No Diagnosis: Margaret wondered whether she might have depression.

No Label × Diagnosis: Margaret went to see a doctor, and the doctor diagnosed that the way she feels is due to her medical condition.

Label × Diagnosis: Margaret went to see a doctor, and the doctor diagnosed that the way she feels is due to depression.

Questioned served as attention checks (original):

Co zmieniło się w pracy Małgorzaty od momentu spotkania jej na przyjęciu do momentu rozmowy telefonicznej?

A. Dostała awans

B. Przestała lubić swoją pracę pomimo tego, że nic w pracy się nie zmieniło

C. Zaczęła szukać nowej pracy

D. Była tak samo zadowolona ze swojej pracy

Jaka była odpowiedź Małgorzaty na zaproszenie na obiad?

A. Natychmiast zaakceptowała zaproszenie
B. Uprzejmie odmówiła z powodu zmian w nastroju
C. Nie odpowiedziała na zaproszenie
D. Zasugerowała spotkanie na kolacji zamiast na obiedzie

Jak zmieniło się podejście Małgorzaty do jej hobby, jakim jest czytanie?

A. Zaczęła częściej czytać
B. Straciła zainteresowanie czytaniem ze względu na problemy ze skupieniem się
C. Przerzuciła się na inny rodzaj literatury
D. Dołączyła do klubu książki

Questioned served as attention checks (translation):

Between the party and the phone call, how did Margaret's feelings about her job change?

A. She got a promotion
B. She began to dislike her job, even though nothing at work changed
C. She started looking for a new job
D. She remained as happy with her job as before

What was Margaret's response when asked to go out for lunch?

A. She accepted immediately
B. She politely declined due to recent mood changes
C. She didn’t respond to the invitation
D. She suggested meeting for dinner instead

How did Margaret's attitude towards her hobby of reading alter?

A. She started reading more frequently

B. She lost interest and struggled to focus on reading

C. She switched to a different type of literature

D. She joined a book club

Questions served as the measure of dependent variable (original)

Twoim zdaniem, jak bardzo prawdopodobne jest to, że Małgorzata może mieć depresję?

Twoim zdaniem, jak bardzo prawdopodobne jest to, że Małgorzata może mieć jakieś zaburzenie zdrowia psychicznego?

Twoim zdaniem, jak bardzo prawdopodobne jest to, że Małgorzata może mieć jakieś problemy emocjonalne?

Twoim zdaniem, jak bardzo prawdopodobne jest to, że Małgorzata powinna poszukać pomocy psychologicznej?

Twoim zdaniem, jak bardzo prawdopodobne jest to, że Małgorzata może mieć jakiś problem medyczny?

Twoim zdaniem, jak bardzo prawdopodobne jest to, że Małgorzata może mieć jakiś problem zdrowotny?

Twoim zdaniem, jak bardzo prawdopodobne jest to, że Małgorzata może odczuwać znaczące symptomy medyczne?

Twoim zdaniem, jak bardzo prawdopodobne jest to, że Małgorzata powinna poszukać pomocy medycznej?

Questions served as the measure of dependent variable (translation)

In your opinion, how probable is it that Margaret might have depression?

In your opinion, how probable is it that Margaret might have some psychological disorder?

In your opinion, how probable is it that Margaret might experience some emotional distress?

In your opinion, how probable is it that Margaret should seek psychological help?

In your opinion, how probable is it that Margaret might have some medical condition?

In your opinion, how probable is it that Margaret might have some health problem?

In your opinion, how probable is it that Margaret might experience some medically significant symptoms?

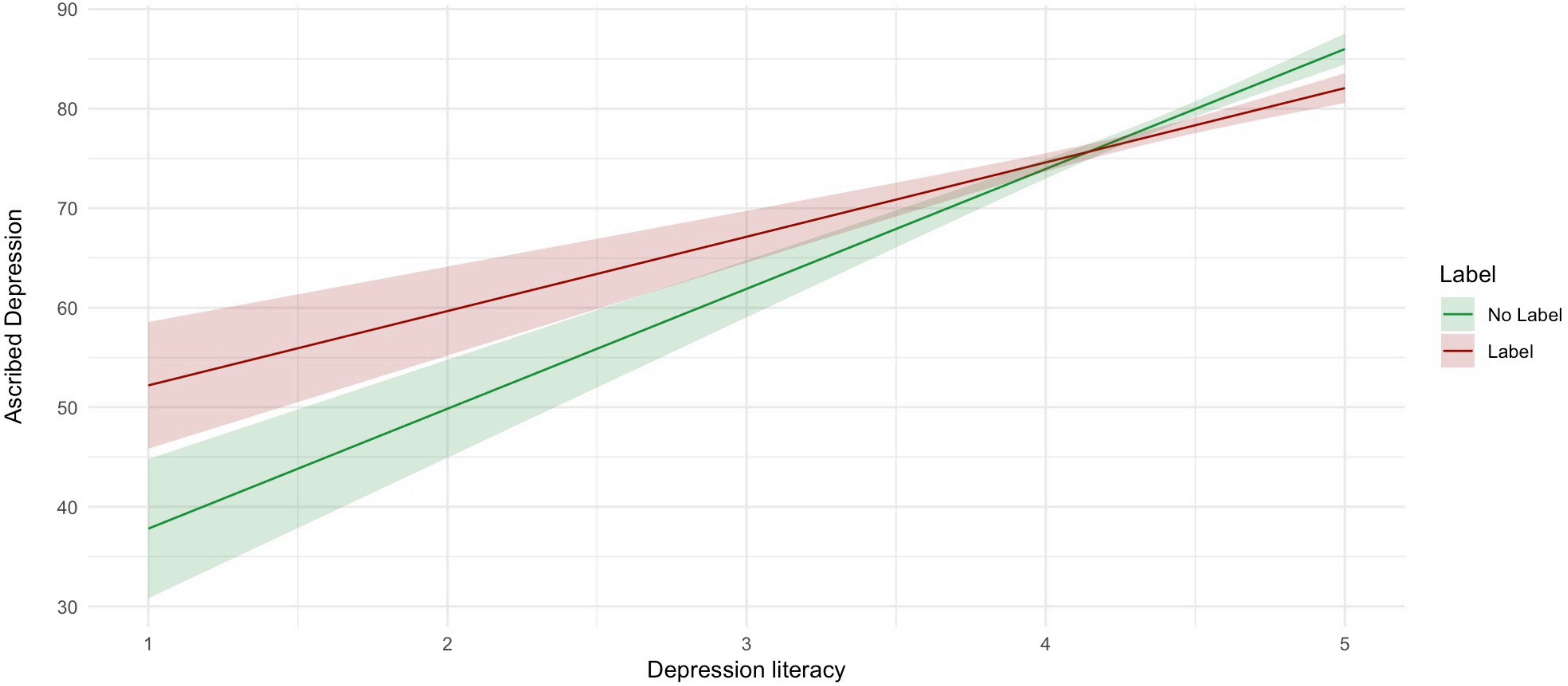
In your opinion, how probable is it that Margaret should seek medical help?

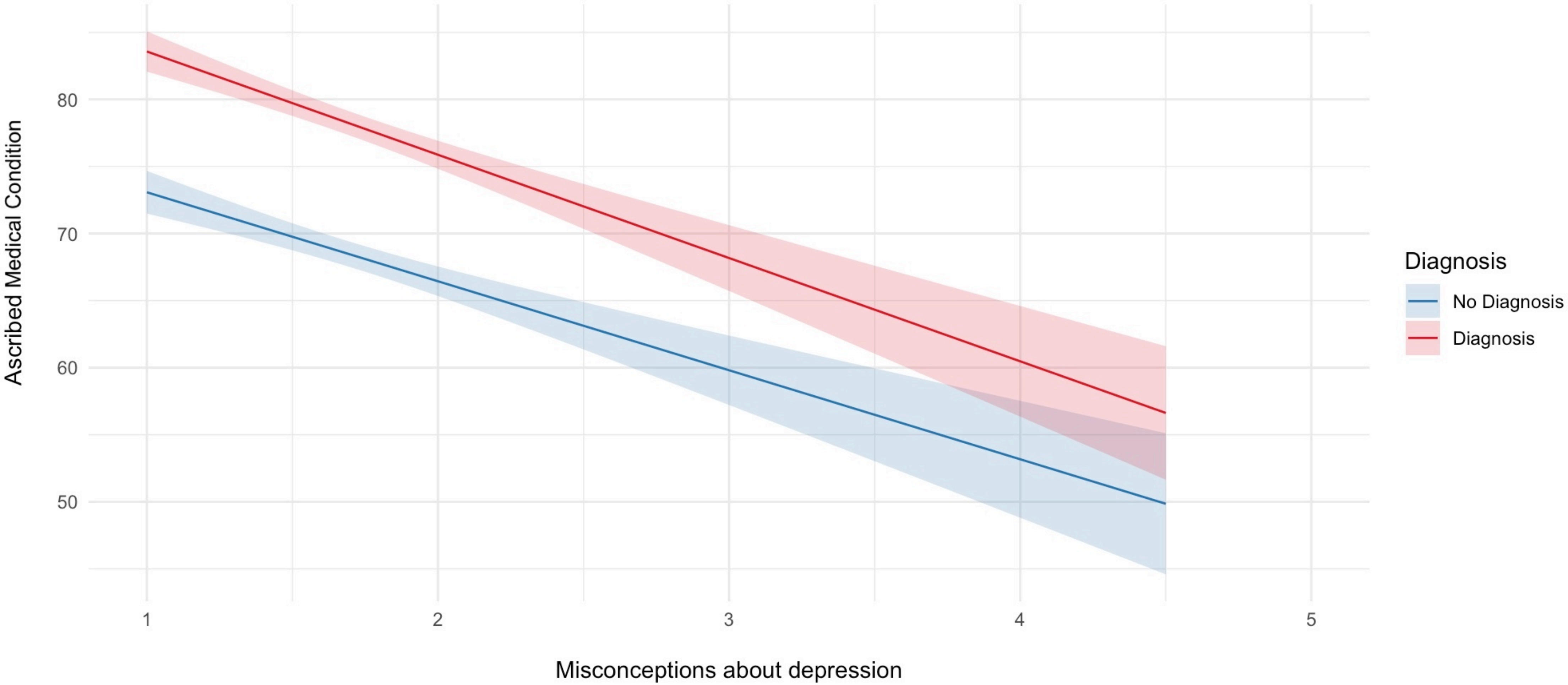
Table 2. Path analysis for the effect of label, medical diagnosis, depression literacy (DepLit) and misconceptions about depression (Miscon) on ascribed medical condition

			95% CI for β		
Paths	β	Post.SD	Lower	Upper	p
Predictors of DV					
label	-.07	.02	-.11	-.02	.010
diagnosis	.18	.03	.14	.23	.001
DepLit	.16	.03	.10	.22	.001
Miscon	-.25	.03	-.30	-.19	.001
label ✻ diagnosis	-.08	.02	-.13	-.03	.002
label ✻ DepLit	-.07	.03	-.13	-.02	.018
label ✻ Miscon	-.01	.03	-.07	.05	.764
diagnosis ✻ DepLit	.01	.03	-.05	.08	.690
diagnosis ✻ Miscon	-.06	.03	-.12	.00	.046
label ✻ diagnosis ✻ DepLit	.00	.03	-.06	.06	.984
label ✻ diagnosis ✻ Miscon	-.04	.03	-.10	.02	.144
Covariances					
deplit - Miscon	-.56	.03	-.62	-.50	.001

Table 1. Path analysis for the effect of label, medical diagnosis, depression literacy (DepLit) and misconceptions about depression (Miscon) on ascribed depression

			95% CI for β		
Paths	β	Post.SD	Lower	Upper	p
Predictors of DV					
label	.06	.02	.02	.11	.006
diagnosis	.18	.02	.13	.23	.001
DepLit	.29	.03	.24	.35	.001
Miscon	-.19	.03	-.24	-.13	.001
label ✻ diagnosis	.09	.02	.04	.13	.001
label ✻ DepLit	-.06	.03	-.12	.00	.036
label ✻ Miscon	-.02	.03	-.08	.03	.436
diagnosis ✻ DepLit	-.01	.03	-.07	.05	.712
diagnosis ✻ Miscon	-.02	.03	-.08	.04	.586
label ✻ diagnosis ✻ DepLit	.01	.03	-.04	.07	.652
label ✻ diagnosis ✻ Miscon	.003	.03	-.05	.06	.930
Covariances					
deplit - Miscon	-.56	.03	-0.62	-0.50	.001


Ascribed Depression
90
80
70
60
50
40
30
1
2
3
4
5
Depression literacy
Label
No Label
Label


Ascribed Medical Condition
80
70
60
50
1
2
3
4
5
Misconceptions about depression
Diagnosis
No Diagnosis
Diagnosis

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