Research Article

Oliver Boxell*

Social context affects mental health stigma

https://doi.org/10.1515/openhe-2020-0003
received July 9, 2020; accepted November 30, 2020

Abstract: Prior research shows mental health stigma is context-dependent and blocks help-seeking behaviors. Any applied solutions will require basic research to understand these contextual nuances. The present paper presents two timed Likert-type rating studies in which participants scored photographs of individuals with mental health diagnoses and other control condition labels in different social contexts. In the first study (N = 99), participants rated the individuals in a professional context and in a non-professional context. The second study (N = 99) systematically manipulated the attractiveness of the individuals depicted. Professional context moderated mental health stigma, indicating that, relative to control label conditions, participants were less accepting of an individual with a mental health diagnosis label as a medical clinician than as a next-door neighbor. Attractiveness had a uniform effect across all the label conditions, which produced a compounding additive effect in which a mental health diagnosis and low attractiveness negatively impacted the ratings simultaneously. The study used timed implicit judgments to demonstrate empirically how previously unstudied social contexts can affect mental health stigma. Understanding how such contextual effects affect stigma is a prerequisite for the development of interventions to overcome the barriers stigma creates for access to treatment and prevention.

Keywords: mental health stigma, social context effects, physical attractiveness

***Corresponding author: Oliver Boxell,** Department of Counseling and Human Development, University of Rochester, Rochester, USA, e-mail: oboxell@u.rochester.edu

1 Introduction

There are many social contexts for which affects on mental health stigma have not been studied, even though it is known that stigma is an all-too-frequent barrier for people looking to access mental health treatment and prevention programs [1–3]. Stigma is such a barrier because self-stigma, or psychologically internalized stigma, mediates the relationship between public-stigma in the community and help-seeking attitudes or behaviors in the individual [4–6]. In other words, exposure to public-stigma associated with mental health problems typically translates into internalized stigma against the self, should a mental health problem arise, and this in turn interferes with help-seeking. Because public-stigma of mental health differs in severity between social contexts, stigma hierarchies begin to form that affect self-stigma and help-seeking to different degrees [7–9]. As such, research programs studying how different social contexts influence levels of public-stigma toward mental health conditions are an important prerequisite in developing strategies and initiatives that could ultimately improve access to services [10,11]. The present paper empirically demonstrates how two different types of social contexts affect public mental health stigma, namely profession and physical attractiveness. It is important to understand whether these contexts in particular affect mental health stigma levels because both are known predictors of perceptual bias in their own right already [12–15], and both are perennially present in the lives of patients, yet their possible interactions with mental health stigma has not previously been investigated.

Such research could ultimately motivate methods to improve access to services for groups with the greatest stigma levels, and research suggests their access to prevention programs could benefit in particular. Moderation analysis shows that, in the presence of anticipated mental health stigma, individuals diagnosed with severe depression seek mental health services and those diagnosed with less severe depression do not [16]. Findings such as this suggest that mental health stigma is a particular barrier to preventative treatment for milder presentations. A better understanding of the contextual factors that control stigma

levels could provide an evidence-base for solutions to this problem, thereby increasing access to preventative measures that mitigate worsening symptoms. This is especially so given that a range of possible interventions constitute candidate protective factors for mental health stigma, and social effects could help determine their appropriateness for any given case [10,11,17–19]. For example, it is possible that individuals in professional contexts or with levels of physical attractiveness that put them at the greatest risk for stigma may benefit from tailored interventions of a different type, intensity, frequency, and in different physical spaces as compared with those who have lower levels of contextualized stigma risk. It is important to establish which contexts affect mental health stigma levels, and how they do so, before the exact permutations of intervention and support can be explored and tested for them.

The current paper reports two speeded Likert-type scalar rating studies in which participants reveal their implicit attitudes toward people with mental health diagnoses in systematically varied social contexts pertaining to profession and attractiveness. Indeed, the present paper builds on the prior literature that finds racial group [4], perceived in-group climate of support [20,21], level of perceived public stigma in the community [22], political attitudes [23], historical time and place [24], and military experience [25] affect mental health stigma and help-seeking behaviors. The present study adds to the prior literature because it not only seeks to examine two additional social contexts, but does so utilizing speeded judgments reflecting implicit attitudes under controlled experimental conditions [26]. In short, this study aims to test the hypothesis that the social contexts of profession and attractiveness will affect implicit attitudes toward people with a mental health disorder relative to control conditions.

2 Methods

2.1 Participants

The present study randomly selected two independent sets of participants from Amazon's Mechanical Turk online participant pool, one for each experiment (Experiment 1: $N = 99$; women: 28.28%; age: $M = 36.29$, $SD = 11.19$; born in US: 73.73%; Experiment 2: $N = 99$; women: 38.38%; age: $M = 33.99$, $SD = 10.02$; born in US: 60.82%). The study required that participants were proficient in English, but did not require that they were native speakers because research indicates that mental health stigma behavior is cross-culturally similar [27–32]. The recruitment protocol restricted IP addresses to the United States, and IP addresses involved in Experiment 1 were not permitted in Experiment 2 in order to prevent repeat participation. The participants received a small financial reimbursement for their time. See, for example, [33] for an evaluation of the validity and reliability of using Mechanical Turk as a recruitment tool in social science research.

2.2 Materials

Experiment 1 utilized 24 photographs of different individuals, all available under a Creative Commons License. The photographs were exactly 50% women, and roughly 33% appeared to be older adults, 33% mid-age adults, and 33% younger adults. All depicted individuals had a broadly western caucasian appearance. The experimental instructions described all 24 depicted individuals as medical professionals (doctors, nurses, nursing assistants, and paramedics, including retirees, trainees, and medics active in the field), although they did not identify any individual as a particular type of medical professional. The materials contained two independent variables, a three-level factor ("Label Type") and a two-level factor ("Social Context"). The three levels under Label Type refer to one of three labels presented on each photograph, as follows: (a) a mental health diagnosis of personality disorder; (b) a career award for services to medical practice; (c) no label. In addition to being a second baseline, the no label condition had the dual function of acting as "distractor items" for the labeled conditions. In a sub-group post-test designed to ascertain whether participants were blind to the purpose of the labels, 94% of participants answered "no" to the question "Are you completely confident that this survey was about the labels?" The two-levels under Social Context refers to the questions participants answered for each photograph they saw, one probing a professional medical clinician context and the other a non-professional community neighbor context, as follows: (a) Assuming this person is still active in a medical field, would you be happy for them to treat you? (b) Would you be happy for this person to become your next-door neighbor? Both questions occurred in the same order as above for each experimental item, and participants responded using a five-point Likert-type scale below each question respectively, where one was the "least happy" and five was the "most happy."

A Latin Square procedure systematically rotated the 24 photographs around the different Label Type conditions such that, across the experiment, each individual

photograph featured in each experimental condition an equal number of times overall, and each participant saw any particular photograph only once, in one condition only. This design controls for any intrinsic differences among the photographs, since each photograph affects each condition an equal amount across the experiment. Furthermore, the three alternative-parallel versions of these novel materials produced by the Latin Square allow for a comparison among them to check the reliability of the Likert-type scale presented. Such comparisons show that all the versions of the scale highly correlate, each accounting for at least 90% of the variance (Versions 1-2, r (n = 62) = 0.98, r^2 = 0.96; Versions 1-3, r (n = 64) = 0.96, r^2 = 0.92; Versions 2-3, r (n = 62) = 0.95, r^2 = 0.90, all ps < .001). Additionally, the internal consistency of the scalar items sorted by Label Type condition into "subscales" achieved an overall average Cronbach's alpha of 0.97 across subscales. Total randomization determined the order-of-presentation.

Experiment 2 used 24 different photographs, this time selected from the Chicago Face Database, or CFD [34]. The individuals depicted all had a neutral expression, pictured from the same distance wearing a uniform gray t-shirt against a white background. According to [34], an independent sample from the CFD (N = 1087; women: 50.78%; age M = 26.75, SD = 10.54) had already normed the photographs for the construct "attractiveness" as subjectively defined by their participants. The present study uses the 12 top scoring photographs (six self-identifying men and six self-identifying women) for this measure, and the 12 bottom scoring photographs (six self-identifying men and six self-identifying women). This makes up the factor Attractiveness Level, which has two levels, namely high and low. The factor Label Type was exactly the same as in Experiment 1. Professional social context was held constant for these materials, probing only the medical clinician context as described for Experiment 1, and all depicted individuals were caucasian young adults. Participants rated the experimental items on the same 1-5 Likert-type scale.

With the same rationale as before, a Latin Square procedure distributed the Experiment 2 photographs into three alternative-parallel lists. The scale appears to be reliable, producing large statistically significant correlations between the three versions, as follows: Versions 1-2, r (n = 65) = 0.95, r^2 = 0.90; Versions 1-3, r (n = 63) = 0.92, r^2 = 0.85; Versions 2-3, r (n = 62) = 0.93, r^2 = 0.86, ps < .001. The internal consistency of the scalar items sorted by Label Type condition into "subscales" achieved an overall average Cronbach's alpha of 0.97 across subscales.

2.3 Procedure

The procedure was identical for both experiments, which used eSurv.org to present the materials and collect the data. A separate link was generated for each of the three versions of each set of materials, and Amazon's Mechanical Turk split both samples into three equal groups and presented one link to each, and also provided reimbursement after completion of the experiment. Once a participant clicked on the experiment link, they first read the instructions page that informed them that they should answer both questions for each photograph within a maximum of ten seconds for their answers to be valid. This is in order to tap participants' implicit attitudes. All participants completed the material presented to them in around five and a half minutes, with an average completion time of 333 seconds for Experiment 1 and 320 seconds for Experiment 2, including time spent on the instructions review in both cases. After reading the instructions, participants checked a box to acknowledge they had received all the information and understood the instructions. They had the option to contact a researcher via email in order to ask any questions before beginning. Each item appeared as a 300 x 300 pixel JPEG image at the top-center of the screen. All questions appeared as black text on a white background in size fourteen Arial font, left-justified.

3 Results

Data analysis excluded participants whose total response time for the experiment was +/- 2SDs from the mean average completion time in order to ensure the data reflect the time limit stated in the experimental instructions and that the data reflect genuine implicit attitudes. This resulted in 6.06% removal of the overall data set for Experiment 1 and 5.05% of the overall data set for Experiment 2. Initial data screening of both data sets confirmed normality, linearity, and homoscedasticity assumptions, while removal of univariate or multivariate outliers was not necessary in either case. Summaries of the descriptive statistics for Experiment 1 are available in Table 1 and Figure 1. Inferential analysis for both experiments involved submitting the raw data to a 3x2 univariate between-subjects ANOVA using SPSS-25 ($\alpha \leq .05$, two-tailed).

The Experiment 1 analysis revealed a significant Label Type by Social Context interaction [$F(2,4437) = 8.69$, $p < .001$, partial $\acute{\eta}^2 = .004$] and main effects of Label Type [$F(2,4437) = 339.15$, $p < .001$, partial $\acute{\eta}^2 = .13$] and Social Context [$F(1,4437) = 34.86$, $p < .001$, partial $\acute{\eta}^2 = .008$]. The

Table 1: Mean happiness ratings on 1-5 Likert-type scale, standard deviations, and 95% confidence intervals for photographs depicting individuals with different labels in different professional contexts, Experiment 1.

		Social Context							
		Professional Medical Clinician				Non-Professional Community Neighbor			
		M	*SD*	95% CI Lower Bound	95% CI Upper Bound	*M*	*SD*	95% CI Lower Bound	95% CI Upper Bound
Label Type	Mental Health Diagnosis Label	2.42	1.20	2.33	2.50	2.83	1.35	2.73	2.93
	Career Award Label	3.77	1.15	3.68	3.85	3.80	1.19	3.72	3.89
	No Label	3.23	1.20	3.14	3.32	3.43	1.23	3.34	3.52

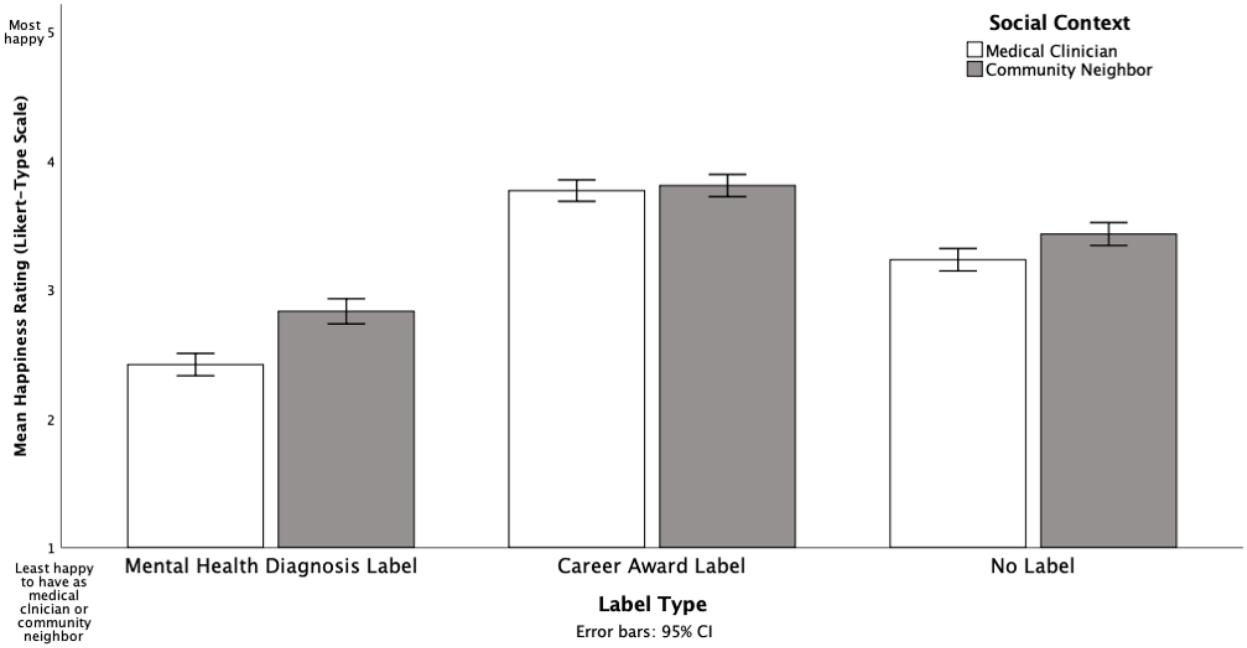

Figure 1: Mean ratings on 1-5 Likert-type scale for photographs depicting individuals with different labels in different professional contexts, Experiment 1.

overall adjusted r^2 for this analysis was .14, and post-hoc Bonferroni tests for Label Type showed that the three levels of this variable were all statistically different from each other (ps < .001), revealing the source of this main effect. To investigate the source of the two-way interaction between Label Type and Social Context, a step-down series of post-hoc pairwise one-way ANOVAs separately contrasted the two levels of Social Context (i.e., professional medical clinician versus non-professional community neighbor) for each of the three levels of Label Type. The two social contexts were significantly different from each other in the mental health diagnosis label condition [$F(1,1481) = 38.62$, $p < .001$, $\acute{\eta}^2 = .03$] and in the no label condition [$F(1,1475) = 9.89$, $p = .002$, $\acute{\eta}^2 = .007$], but they were not significantly different for the career award label condition [$F(1,1481) = .406$, $p = .52$, $\acute{\eta}^2 = .0003$]. In short, these results confirm the hypothesis that professional context moderates ratings for people with a mental health label relative to the other label conditions.

Although the post-hoc comparisons showed the professional contexts were significantly different for both the mental health diagnosis label and the no label conditions, note that in the former versus the latter condition, the magnitude of the F-ratio (38.62 versus 9.89) and the effect size ($\acute{\eta}^2 = .03$ versus .007) were both much larger, and the 95% confidence intervals between the two contexts were much nearer to overlap for the no label condition than for the mental health label condition. Given that there was no

Table 2: Mean happiness ratings on 1-5 Likert-type scale, standard deviations, and 95% confidence intervals for photographs depicting individuals with different labels and different levels of physical attractiveness, Experiment 2.

		Attractiveness Level							
		High				Low			
		M	*SD*	95% CI Lower Bound	95% CI Upper Bound	*M*	*SD*	95% CI Lower Bound	95% CI Upper Bound
Label Type	Mental Health Diagnosis Label	2.78	1.33	2.65	2.92	2.19	1.10	2.08	2.30
	Career Award Label	3.94	1.04	3.83	4.04	3.13	1.24	3.00	3.25
	No Label	3.48	1.03	3.37	3.58	2.67	1.03	2.57	2.78

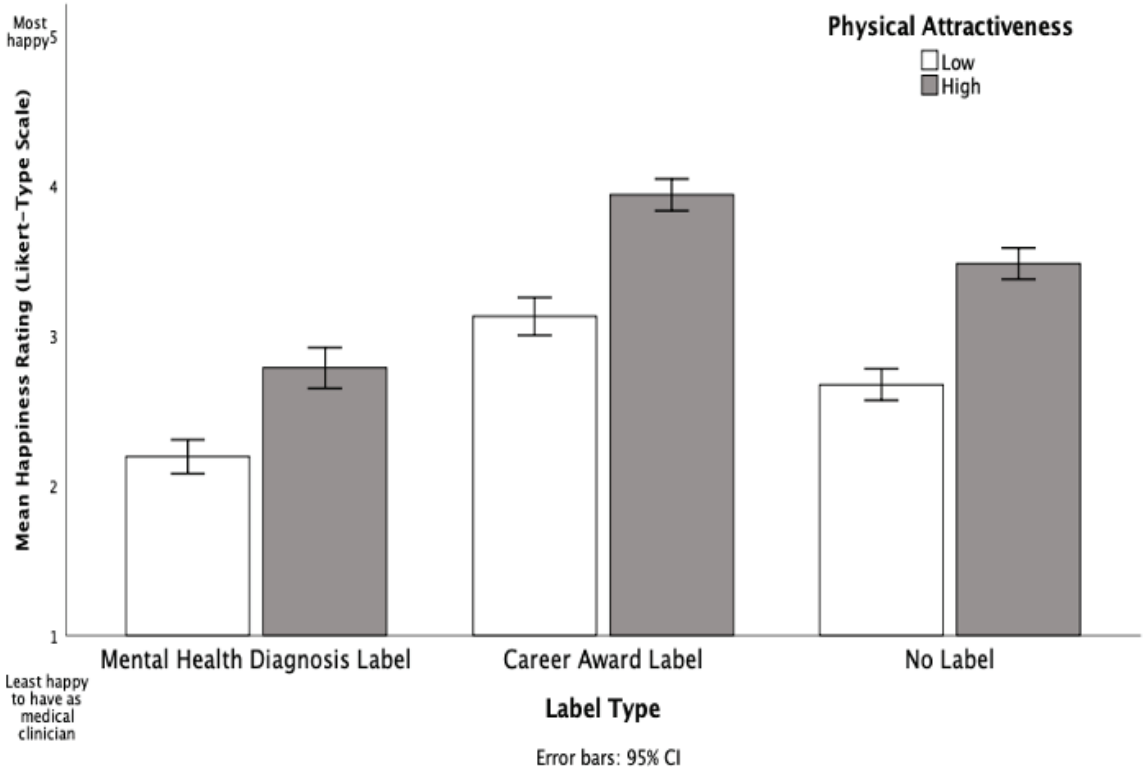

Figure 2: Mean ratings on 1-5 Likert-type scale for photographs depicting individuals with different labels and different levels of physical attractiveness, Experiment 2.

significant effect of context for the career award condition at all, it seems the majority of the variance that explains the Label Type by Social Context interaction results from the difference between the social contexts in the mental health diagnosis condition, with no label acting only as a minor contributor in this regard. Since the lower-rated mental health diagnosis condition alone represents mental health stigma relative to the other two control conditions, these results show that professional social context moderates mental health stigma.

Summaries of the descriptive statistics for Experiment 2 are available in Table 2 and Figure 2. A univariate 3x2 between-subjects ANOVA ($\alpha \leq .05$, two-tailed) revealed main effects of Attractiveness Level [$F(1,2219) = 235.01$, $p < .001$, partial $\acute{\eta}^2 = .10$] and Label Type [$F(2,2219) = 158.06$, $p < .001$, partial $\acute{\eta}^2 = .13$], but no significant interaction between the two independent variables [$F(2,2219) = 2.27$, $p = .10$, partial $\acute{\eta}^2 = .002$]. The overall adjusted r^2 for this analysis is .20, and post-hoc Bonferroni comparisons for the levels of Label Type showed that all three levels were

significantly different from each other, demonstrating the source of this main effect ($ps < .001$).

These results do not support the hypothesis that attractiveness affects attitudes toward people with mental health conditions relative to the other label conditions, since attractiveness affects all label types similarly. However, the simultaneous main effects of Label Type and Attractiveness Level are especially pertinent for the mental health diagnosis condition. Not only would the depicted individuals with mental health diagnostic labels experience mental health stigma relative to the other label conditions, low levels of attractiveness further compounds the low ratings they receive to the lowest average scores in the data set. In short, mental health conditions and low attractiveness produce an additive stigma effect from two separate sources for individuals who possess both, perhaps making them especially vulnerable. This is itself a noteworthy finding, because an additive effect such as this is another way in which social contexts can influence mental health stigma.

4 Discussion

Experiment 1 demonstrated that professional context moderated mental health stigma. The difference between ratings for professional medical clinicians versus non-professional community neighbors influenced ratings for the mental health diagnosis label more strongly than for either of the control conditions. Namely, participants were less accepting of an individual with a mental health diagnosis label as their clinician than as their neighbor. Meanwhile, Experiment 2 showed that attractiveness affected ratings across all three label types by a similar amount, producing an additive stigma effect when occurring in combination with the mental health label condition. This means that depicted individuals who experience mental health stigma also experience a second compounding stigmatizing effect when low attractiveness is simultaneously present.

Mental health stigma is often an access barrier for mental health treatment [1], which can often result in milder symptoms worsening unnecessarily [16]. A fuller understanding of the factors that influence mental health stigma provides a starting point for interventions that could remedy this important access issue for people in heightened need of services. The findings presented in the present paper add new insight to the existing literature about two such factors, namely professional context and attractiveness. Clearly, further research is needed to investigate other candidate influencing factors for mental health stigma effects, such as age cohorts, generation cohorts, and life-course effects, to name just a few.

Utilizing more sophisticated statistical analysis techniques to refine our understanding of the contextual parameters of mental health stigma still further would also be of benefit, potentially all the way to the most granular level of individual differences — see, for example, [35] for research on individual differences among the related phenomenon of stigma among adolescents with learning disabilities. Furthermore, the findings in the present paper could provide the basis for applied clinical research that establishes optimal intervention techniques for individuals whose differing contextual circumstances put them at risk from the severest forms of stigma [17]. For example, because of the greater levels of mental health stigma that require mitigation, individuals who experience stigma in professional settings might benefit from intervention in different physical spaces such as the workplace, at earlier points in the time-course of the stigma experience, and at greater intensity, as compared with those who experience stigma in non-professional settings [10,11,17–19]. Likewise, individuals who simultaneously possess lower physical attractiveness and a mental health condition may benefit from specifically targeted mitigation strategies of different time-courses, places, and magnitudes. It is beyond the scope of the current paper to establish the exact permutations of intervention that would be most effective for each social context, and these remain questions for future applied research. Nonetheless, the present findings have measured the effects of professional context and physical attractiveness and, as such, identified some high risk groups for which targeted inventions can be developed in subsequent work.

While these findings are robust, the present study does have some limitations to consider. Because the present study administered its materials online and recruited participants through Mechanical Turk, it was not possible to verify participants' identities beyond limited self-reported demographic data and IP address information. Restricting recruitment to US IP addresses helped to manage socio-demographics in broad terms, just as preventing multiple uses of the same IP address across both experiments prevented repeat participation. The selectiveness of the Mechanical Turk user population may also mean the sample is not as representative of the whole population as true random sampling. Indeed, the sample produced a gender bias (Experiment 1 was 71.72% men and Experiment 2 was 61.62% men), which questions whether the findings generalize to samples that include more women. This is especially true since some research suggests that,

on average, men may stigmatize mental health conditions more severely than women [36]. Likewise, the samples for both experiments were predominantly born in the United States, and were predominantly young adults. It will be important to replicate these findings with a more diverse sample in future research. Another limitation is that it is possible participants may respond differently to pictures as compared with real-life people, although further research is required to determine this. The depicted individuals in the pictures were also exclusively caucasian, which restricts the interpretation of the present findings to the effects of stigma on this particular population. In Experiment 2, the depicted individuals were further restricted to caucasian young adults. Future studies are needed to investigate the contextual effects of mental health stigma among more diverse sociodemographic groups. Finally, research suggests that geographical region provides another context by which mental health stigma varies [37], although the present study did not control for this variable.

In conclusion, the present paper is an empirical demonstration of the contextual permutations of mental health stigma. It shows that professional context moderates mental health stigma and low attractiveness is additive upon it. Prior research has shown that stigma occurs in hierarchies of severity based on context, and that it interferes with help-seeking behaviors. Understanding the different contextual facets of mental health stigma is vital because the solutions for overcoming stigma and its effects on help-seeking will need to be as contextually nuanced as its causes [10,11]. This starts with research that reveals how social contexts affect the presentation of mental health stigma, such as the present paper has done for professional context and attractiveness.

Funding information: The authors state no funding involved.

Conflict of interest: The authors state no conflict of interest.

Informed consent: Informed consent has been obtained from all individuals included in this study.

Ethical approval: The institutional review board of the Cognitive Science Institute (CSI) indicated that the present study was exempt from a full review because there was minimal risk to participants.

Data availability statement: The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

References

[1] Corrigan PW, Druss BG, Perlick DA. The impact of mental illness stigma on seeking and participating in mental health care. Psychol Sci Public Interest. 2014;15(2):37–70.
[2] Jennings KS, Cheung JH, Britt TW, Goguen KN, Jeffirs SM, Peasley AL, et al. How are perceived stigma, self-stigma, and self-reliance related to treatment-seeking? A three-path model. Psychiatr Rehabil J. 2015;38(2):109–16.
[3] Wada M, Suto MJ, Lee M, Sanders D, Sun C, Le TN, et al. University students' perspectives on mental illness stigma. Ment Health Prevention. 2019;14:200159.
[4] Conner KO, Copeland VC, Grote NK, Koeske G, Rosen D, Reynolds CF, et al. Mental health treatment seeking among older adults with depression: The impact of stigma and race. Am J Geriatr Psychiatry. 2010;18(6):531–43.
[5] Held P, Owens G. Stigmas and attitudes toward seeking mental health treatment in a sample of veterans and active duty service members. Traumatology. 2013;19(2):136–43.
[6] Vidourek R, Burbage M. Positive mental health and mental health stigma: A qualitative study assessing student attitudes. Ment Health Prevention. 2019;13:1–6.
[7] Corrigan P, Watson A. Understanding the impact of stigma on people with mental illness. World Psychiatry. 2002;1(1):16–20.
[8] Gaddis SM, Ramirez D, Hernandez EL. Contextualizing public stigma: Endorsed mental health treatment stigma on college and university campuses. Soc Sci Med. 2018;197:183–91.
[9] Westbrook MT, Legge V, Pennay M. Attitudes towards disabilities in a multicultural society. Soc Sci Med. 1993;36(5):615–23.
[10] Greenwood K, Carroll C, Crowter L, Jamieson K, Ferraresi L, Jones A, et al. Early intervention for stigma towards mental illness? Promoting positive attitudes towards severe mental illness in primary school children. J Public Ment Health. 2016;15(4):188–99.
[11] Knifton L, Walker A, Quinn N. Workplace interventions can reduce stigma. J Public Ment Health. 2008;7(4):40–50.
[12] Lee J, Adams G, Li YJ, Gillath O. Context matters for attractiveness bias. Behav Brain Sci. 2017;40:e33.
[13] Michalec B, Giordano C, Arenson C, Antony R, Rose M. Dissecting first-year students' perceptions of health profession groups: Potential barriers to interprofessional education. J Allied Health. 2013;42(4):202–13.
[14] Michalec B, Giordano C, Dallas S, Arenson C. A longitudinal mixed-methods study of IPE students' perceptions of health profession groups: Revisiting the contact hypothesis. J Interprof Educ Pract. 2017;6:71–9.
[15] Schein SS, Trujillo LT, Langlois JH. Attractiveness bias: A cognitive explanation. Behav Brain Sci. 2017;40:e43.
[16] Fox AB, Smith BN, Vogt D. How and when does mental illness stigma impact treatment seeking? Longitudinal examination of relationships between anticipated and internalized stigma,

symptom severity, and mental health service use. Psychiatry Res. 2018;268:15–20.
[17] Conner K, McKinnon S, Roker R, Ward C, Brown C. Mitigating the stigma of mental illness among older adults living with depression: The benefit of contact with a peer educator. Stigma Health. 2018;3(2):93–101.
[18] Pearl R, Forgeard M, Rifkin L, Beard C, Björgvinsson T. Internalized stigma of mental illness: Changes and associations with treatment outcomes. Stigma Health. 2017;2(1):2–15.
[19] Thornicroft G, Mehta N, Clement S, Evans-Lacko S, Doherty M, Rose D, et al. Evidence for effective interventions to reduce mental-health related stigma and discrimination. Lancet. 2016;387(10023):1123–32.
[20] Britt TW, Wilson CA, Sawhney G, Black KJ. Perceived unit climate of support for mental health as a predictor of stigma, beliefs about treatment, and help-seeking behaviors among military personnel. Psychol Serv. 2020;17(2):141–50.
[21] Ludwikowski W, Vogel D, Armstrong P. Attitudes toward career counseling: The role of public and self-stigma. J Couns Psych. 2009;56(3):408–16.
[22] Pedersen ER, Paves AP. Comparing perceived public stigma and personal stigma of mental health treatment seeking in a young adult sample. Psychiatry Res. 2014;219(1):143–50.
[23] DeLuca JS, Vaccaro J, Seda J, Yanos PT. Political attitudes as predictors of the multiple dimensions of mental health stigma. Int J Soc Psychiatry. 2018;64(5):459–69.
[24] Davidson G, Leavey G. Promoting mental health in Northern Ireland: Addressing division, inequality, and stigma. J Public Ment Health. 2010;9(4):6–15.
[25] Currier JM, McDermott RC, McCormick WH. Mental health treatment related stigma and professional help seeking among student veterans. Psychol Serv. 2017;14(4):531–42.
[26] Nosek B, Hawkins C, Frazier R. Implicit social cognition: From measures to mechanisms. Trends Cogn Sci. 2011;15(4):152–9.
[27] Angermeyer M, Holzinger A, Matschinger H. Mental health literacy and attitude towards people with mental illness: A trend analysis based on population surveys in the eastern part of Germany. Eur Psychiatry. 2009;24(4):225–32.
[28] Lauber C, Rössler W. Stigma towards people with mental illness in developing countries in Asia. Int Rev Psychiatry. 2007;19(2):157–78.
[29] Li J, Li J, Thornicroft G, Huang Y. Levels of stigma among community mental health staff in Guangzhou, China. BMC Psychiatry. 2014;14:231.
[30] Mehta N, Kassam A, Leese M, Butler G, Thornicroft G. Public attitudes towards people with mental illness in England and Scotland, 1994–2003. Br J Psychiatry. 2009;194(3):278–84.
[31] Parcesepe A, Cabassa L. Public stigma of mental illness in the United States: A systematic literature review. Adm Policy Ment Health. 2013;40(5):384–99.
[32] Smith M. What do surveys of public attitudes to mental health problems really mean (and do we mean what we say)? J Public Ment Health. 2004;3(4):40–8.
[33] Thomas KA, Clifford S. Validity and Mechanical Turk: An assessment of exclusion methods and interactive experiments. Comput Hum Behav. 2017;77:184–97.
[34] Ma D, Correll J, Wittenbrink B. The Chicago Face Database: A free stimulus set of faces and norming data. Behavioral Research. 2015;47(4):1122–35.
[35] Daley SG, Rappolt-Schlichtmann G. Stigma consciousness among adolescents with learning disabilities: Considering individual experiences of being stereotyped. Learn Disabil Q. 2018;41(4):200–12.
[36] Bradbury A. Mental health stigma: The impact of age and gender on attitudes. Community Ment Health J. 2020;56(5):933–8.
[37] Brown R, Imura M, Mayeux L. Honor and the stigma of mental healthcare. Pers Soc Psychol Bull. 2014;40(9):1119–31.