Original Article

Adolescents’ Continuum and Categorical Beliefs, Help-seeking Intentions, and Stigma Towards People Experiencing Depression or Schizophrenia

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Abstract

The present study investigated the relationships between continuum and categorical beliefs, stigma, and help-seeking in response to vignettes depicting depression and schizophrenia. Participants were 193 adolescents aged 13-18 years. Results showed no relationships between continuum beliefs and stigma or help-seeking intentions for the depression vignette when controlling for other predictors. Stronger categorical beliefs were associated with greater social distance, and endorsement of dangerousness, avoidance, and fear. For the schizophrenia vignette, higher continuum beliefs predicted lower prognostic pessimism, social distance, and stigmatising attitudes. Surprisingly, continuum beliefs predicted greater intentions to not seek help. Categorical beliefs were associated with greater prognostic pessimism, social distance, and stigmatising attitudes. Future research is needed to explore the effect of continuum belief interventions on adolescent mental health stigma.

Keywords Continuum beliefs · Adolescence · Stigma · Help-seeking · Depression · Schizophrenia

Over recent years there has been much research interest in the potential of continuum beliefs about mental illness for stigma reduction. Continuum beliefs refer to the extent to which people endorse mental illness as being on a continuum to everyday experience. This interest derives from Link and Phelan’s (2001) modified labelling theory, which suggests that the separation of “us” from “them” is integral to stigmatisation. It follows that the endorsement of continuum beliefs should be associated with less stigma, as they are conceptually antithetical to “us” vs. “them” distinctions. Peter et al.’s (2021) meta-analysis of correlational findings among the adult population found small inverse relationships...
between holding continuum beliefs and social distance, fear, and dangerousness and unpredictability stereotypes. The correlations with social distance and fear have been found predominantly among studies examining schizophrenia, whereas research has found a positive correlation between continuum beliefs and prosocial attitudes for depression. Moreover, research has shown that categorical beliefs – the belief that mental illness is fundamentally different to everyday experience – positively predict mental health stigma (Thibodeau et al., 2018; Thibodeau & Peterson, 2018). While experimental findings have been more mixed (Peter et al., 2021; Schomerus et al., 2016; Thibodeau & Peterson, 2018), the promotion of continuum beliefs has nonetheless been identified as a promising tool for stigma reduction (Peter et al., 2021).

Despite the growing body of research among the adult population, there is a distinct lack of research examining the link between continuum beliefs and stigma among adolescents. To our knowledge, only Dolphin and Hennessy (2017) have examined continuum and categorical beliefs within an adolescent population. In a sample of 156 adolescents, they experimentally manipulated continuum and categorical beliefs in relation to a depression vignette and found no effect on emotional reactions. This study did not include important stigma outcome measures such as social distance and negative stereotypes. Moreover, because they did not examine the relationships between continuum beliefs and stigma, it is unclear to what extent the inverse correlations present in the adult literature generalise to adolescents. A prior systematic review has suggested that education is slightly more effective than social contact at reducing stigmatising attitudes among adolescents, with the opposite pattern emerging for adults (Corrigan et al., 2012). This suggests that different stigma-reduction processes may have differential effects depending on the age of the target population. Consequently, it is important to evaluate the correlations between continuum and categorical beliefs and stigma in an adolescent population.

Another area lacking sufficient research is the exploration of the potential relationship between continuum and categorical beliefs and intentions to provide and seek help. Around half of all mental disorders have an onset before the age of 14 years, with three-quarters occurring before the age of 24 years (Kessler et al., 2005; Kessler et al., 2007). However, more than a third of young people aged 12-17 years who experience a mental health problem do not seek help (Lawrence et al., 2015). Stigma associated with mental illnesses has been found to be a significant barrier to help-seeking in young people (Gulliver et al., 2010). For people aged 12-25 years, greater personal stigma is related to unfavourable attitudes towards help-seeking and less productive helping intentions (Yap et al., 2011; Yap & Jorm, 2011). This raises the question of whether the inverse relationship between continuum beliefs and lower stigma means that continuum beliefs are also associated with greater help-seeking or helping intentions. One study has found that inducing continuum or categorical beliefs does not impact one’s help-seeking or helping intentions (Fernandez et al., 2022). However, this study did not differentiate between intentions to seek help from informal and formal sources. Given that continuum belief presentations have been promoted for inclusion in anti-stigma messaging (Peter et al., 2021), it is vital to understand the potential relationship to recipients’ intentions to seek and provide help.
Aims and Hypotheses

In this study we aim to explore the relationship between continuum and categorical beliefs, stigma, help-seeking and helping intentions in relation to depression and schizophrenia vignettes within an adolescent population. These mental illnesses were chosen to examine adolescent continuum beliefs about common, less-stigmatised mental illnesses (e.g., depression) compared to uncommon, more highly stigmatised mental illness (e.g., schizophrenia; Reavley & Jorm, 2011). Moreover, the adult continuum belief literature has primarily examined schizophrenia and depression, which allows opportunities to compare results (Peter et al., 2021). Our primary hypotheses are that:

(1) Stronger continuum beliefs will be associated with lower social distance, prognostic pessimism, and stigmatising attitudes for both the depression and schizophrenia vignettes.

(2) Categorical beliefs will be positively correlated with social distance, prognostic pessimism, and stigmatising attitudes for both vignettes. However, they will be inversely correlated with blame.

Our secondary hypotheses are as follows:

(3) Stronger continuum beliefs will be associated with greater help-seeking and helping intentions for both the depression and schizophrenia vignettes.

(4) Categorical beliefs will be associated with lower help-seeking and helping intentions for both vignettes.

Methods

Participants

Participants were recruited to a Qualtrics survey via social media, community organisations and sports clubs, and the University of Wollongong psychology research participation scheme. Participants recruited from social media and the community were eligible to enter a raffle to win 1 of 10 x $50AUD Amazon vouchers, while those recruited from the University of Wollongong received course credit. Informed consent was obtained from all participants and parental consent was required for participants aged under 16 years. We included participants aged 13-18 years who were fluent in English, finished the questionnaire, and were not identified as likely to be an invalid response (e.g., same respondent submitting multiple surveys; automated bot responses). Of the 552 participants who began the survey, only 193 (35.0%) were included in the final sample. This discrepancy was largely due to the exclusion a large number (n = 271) of responses which were suspected to be of questionable validity. These responses were submitted in close succession within a 72-hour period with each response providing a name in the exact same format: first name, middle initial, surname. Each name was accompanied by a randomly generated email in a similar format that did not match the name. These responses constituted 75.5% of the 359 excluded responses. An additional 88 records were not eligible for inclusion as these participants did not complete the survey.
G*Power 3.1 indicated that to detect a small-medium correlation with a power of 0.80 and a type 1 error rate of 0.05, 193 participants are required.

The sample ranged in age from 13 to 18 years (M = 17.50, SD = 0.97) and predominantly identified as female (female = 145, male = 41, other = 7). Around a third of participants self-identified as having a mental illness (n = 61, 31.6%). The sample was primarily from Australia (n = 181, 93.8%) followed by USA (n = 5, 2.6%); Canada (n = 2, 1.0%); and other countries (n = 5, 2.5%). Sixteen (8.3%) spoke a language other than English at home. Participants were recruited predominantly from the University of Wollongong (n = 140), with 53 from social media and the general community. We ran all analyses both with and without non-Australian residents and found the same pattern of findings unless otherwise stated.

**Materials**

**Vignettes**

Respondents received both a depression and an early schizophrenia vignette adapted from Jorm et al. (2007; see Supplementary Materials 1). These vignettes have been presented to adolescents in a representative Australian national survey (Jorm et al., 2007). The characters in the vignettes were matched on age and gender to participants (e.g., male = Jack/Joshua, female = Emily/Ella, other = Alex/Ash).

**Continuum and Categorical Beliefs**

Continuum and categorical beliefs were assessed using a 7-item measure developed by Schomerus et al. (2016). Answers were provided on a 7-point scale (1 = strongly disagree, 7 = strongly agree) for both the 4-item continuum belief subscale (e.g., “Sometimes we are all at least a little like Joshua, it is only a question of how pronounced this state is”) and the 3-item categorical belief subscale (e.g., “There is something about Ash that makes them fundamentally different from other people”). As this measure has not been validated for an adolescent population, we conducted a principal component factor analysis to evaluate the factor structure. Using the A Priori Criterion (Hair, 2009), we evaluated the extent to which the items loaded onto the factors of “Continuum beliefs” (Factor 1) and “Categorical beliefs” (Factor 2). We assumed these constructs were related and conducted oblique promax rotation (Schomerus et al., 2016). For the depression vignette, factor 1 explained 28.56% of the variance and Factor 2 explained 26.81% of the variance. Likewise, for the schizophrenia vignette, factor 1 explained 34.73% of the variance and Factor 2 explained 22.07% of the variance. See Supplementary Materials 2 for the pattern matrix. Factor loadings within the principal component factor analysis were considered significant at > 0.04 (Hair, 2009). Item 3 (“Overall, Jack’s problems are abnormal”) did not significantly load onto either factor. Moreover, excluding this item from the continuum subscales for depression and schizophrenia improved reliability considerably (from α = 0.48 to α = 0.63, and from α = 0.31 to α = 0.69, respectively). As such, item 3 was removed from the analyses. Meanwhile, the categorical subscale showed satisfactory reliability for depression (α = 0.70) and schizophrenia (α = 0.72).
Revised-Attribution Questionnaire (r-AQ)

The 9-item r-AQ is a validated measure of stigma for adolescents (Watson et al., 2004). Each item is rated on a 7-point scale (1 = strongly disagree, 7 = strongly agree) and corresponds to one of 9 elements of stigma: blame (e.g., “It is not the student’s fault he or she has a mental illness”), pity, anger, dangerousness, segregation, fear, helping intentions, avoidance, and help-seeking (see Watson et al., 2004, for all items). Internal reliability for this scale was poor for both the depression and schizophrenia vignettes (Cronbach’s $\alpha=0.57$).

Social Distance Scale

The 5-item Social Distance Scale (SDS) for young people was used to measure social distance (Jorm & Wright, 2008). Responses were on a 4-point scale (e.g., “Would you be happy to go out with Ash on the weekend?”; 1 = definitely not, 2 = definitely yes). Reliability was satisfactory for depression ($\alpha=0.91$) and schizophrenia ($\alpha=0.90$).

Prognostic Pessimism

Prognostic pessimism was evaluated via a single-item on a 7-point scale (Lebowitz et al., 2013). Participants received the question “How long do you think that Emily will continue to feel and behave as described above?” (1 = less than 1 week, 7 = indefinitely).

General Help-Seeking Questionnaire

The 11-item General Help-seeking Questionnaire (GHSQ) was used to measure participants’ formal (e.g., mental health professional, doctor, teacher, etc.) and informal (e.g., intimate partner, friend, etc.) help-seeking intentions, alongside their intentions to not seek help (Wilson et al., 2005). Responses were on a 7-point scale indicating respondents’ intentions to seek help (e.g., “Please select the response that best describes your intention to seek help from each help source that is listed: Parent”; 1 = Extremely unlikely, 7 = Extremely likely). In this study, the GHSQ examined hypothetical help-seeking intentions (“If you were having a problem like Ash’s, how likely is it that you would seek help from the following people?”). Reliability for informal and formal help-seeking was acceptable for both depression ($\alpha=0.69$ and $\alpha=0.76$, respectively) and schizophrenia ($\alpha=0.71$ and $\alpha=0.77$, respectively).

Familiarity with Mental Illness

Participants were given the Revised Level of Contact report (r-LOC) to assess their familiarity with mental illness (Corrigan et al., 2005). The items ranged in familiarity on an 8-point scale (1 = “I have never observed a person with mental illness”, 8 = “I have a severe mental illness”).

Identification of Mental Illness

The item “What, if anything, is wrong with Jack?” was included to assess participants’ ability to identify the mental illness presented in the vignettes (Jorm & Griffiths, 2008). For the
depression vignette, answers of ‘depression’ or ‘depressive disorder’ or ‘major depression’ were considered correct. For the schizophrenia vignette, words associated with schizophrenia spectrum disorders (e.g., “psychosis”, “schizophrenia”, “psychotic disorder”, “schizoaffective disorder”) were coded as correct. If participants identified more than one mental illness, it was still considered correct if they also mentioned the relevant disorder.

**Impression Management Scale**

The 8-item impression management subscale of the Balanced Inventory of Desirable Responding Short Form (BIDR-16) was included to control for socially desirable responding (Hart et al., 2015). Responses were recorded on a 7-point scale (1 = not true, 7 = very true) with questions such as “I sometimes tell lies if I have to”. Reliability for the scale was adequate ($\alpha = 0.70$).

**Attention Check**

We included a 1-item instruction on the r-AQ, asking participants to “Please click ‘Somewhat Disagree’ for this item” (Meade & Craig, 2012). Participants were not removed for failure to correctly answer this item.

**Procedure**

Ethics approval for the study was received from the Institutional Research Ethics Committee (HE2020/240) and all procedures were in accordance with the Helsinki Declaration of 1975, as revised in 2000. Upon accessing the study link, participants were requested to provide written informed consent, with parental consent also required for participants aged under 16 years. After providing consent, participants entered their demographic information. Participants then completed the r-LOC and Impression Management subscale of the BIDR-16. Then, participants received a vignette of someone experiencing either depression or schizophrenia, in a counterbalanced manner across participants. The vignette character was matched on age and gender to the participant, based on their demographic information. Next, participants completed measures of prognostic pessimism, GHSQ, continuum and categorical beliefs, r-AQ, and SDS. An attention check was presented within the r-AQ for the depression block only. All measures were then completed again for the other vignette. Finally, participants recruited from social media and the general community were asked whether they wanted to be entered into a raffle, while those recruited from the University of Wollongong were instructed on how to receive course credit. Participants were then thanked and debriefed.

**Statistical Analyses**

Analyses were conducted using SPSS version 25. Inspection of histograms, boxplots and skewness and kurtosis statistics indicated that normality was violated for all individual items within the r-AQ in addition to the mean r-AQ score for both vignettes. Normality was also violated for prognostic pessimism on the schizophrenia vignette. Consequently, we conducted Spearman’s rho correlations to explore relationships between continuum and categorical beliefs, familiarity with mental illness, identification of depression and schizophrenia, stigma, social distance, help-seeking, and social desirability. We also ran
Spearman’s rho correlations on specific stigma elements of the r-AQ. We then followed-up significant correlations with multiple linear regression analyses to evaluate the predictive utility of continuum beliefs on stigma outcomes when controlling for correct identification of mental illness, familiarity, gender, and age. Outliers with a Cook’s distance value of < 1 and standardised DFBeta and standardised DFFit values < 2 were included in the model as they were not expected to have an undue influence (Cook & Weisberg, 1982; Stevens, 2002). For outcome variables where normality or homoscedacity assumptions were violated, a bootstrapped robust regression with 1000 resamples was run with no differences in the pattern of results unless otherwise reported.

Results

Descriptives

The mean continuum and categorical belief scores for the depression vignette were 4.97 ($SD = 1.10$) and 2.90 ($SD = 1.21$), respectively. Meanwhile, the mean continuum and categorical belief scores were 3.23 ($SD = 1.30$) and 4.08 ($SD = 1.26$) for the schizophrenia vignette. The proportion of participants who correctly identified the depression vignette was 80.3% ($n = 155$), compared to 61.7% ($n = 119$) for the schizophrenia vignette. 90% of participants correctly answered the attention check item ($n = 174$).

Correlations

Bivariate Spearman’s rho correlations are reported in Tables 1 and 2.

Depression Vignette Correlations

Within the depression vignette, participants’ continuum beliefs were significantly negatively correlated with dangerousness, blame, and fear. However, these correlations were small in magnitude ($r_s: 0.15–0.17$). Furthermore, their continuum beliefs were positively correlated with participants’ familiarity with mental illness and their correct identification of depression. On the other hand, categorical beliefs were significantly positively related to social distance, dangerousness, avoidance, and fear ($r_s: 0.15–0.25$).

Schizophrenia Vignette Correlations

For the schizophrenia vignette, negative correlations ranged from small to medium ($r_s: 0.22–0.36$) between continuum beliefs and prognostic pessimism, stigmatising attitudes (r-AQ), and social distance. Interestingly, there was also a correlation between continuum beliefs and stronger intentions to not seek help. Within the r-AQ, continuum beliefs had significant negative relationships to segregation, avoidance, fear, and help-seeking. These relationships were predominantly small ($r_s: 0.15–0.30$). Categorical beliefs were shown to have small positive correlations to prognostic pessimism, general stigma (r-AQ), social distance, dangerousness, segregation, avoidance, fear, and formal help-seeking intentions ($r_s: 0.17–0.30$). Correct identification of schizophrenia was related to stronger categorical beliefs. The inverse relationship between continuum and categorical beliefs was also significant.
Table 1  Relationships between continuum and categorical beliefs and outcome variables for depression and schizophrenia vignettes

|                      | Continuum Beliefs | Categorical Beliefs | Prognostic Pessimism | GHSQ Informal | GHSQ Formal | SDS | Social Desirability | r-LOC | Identification | Age |
|----------------------|-------------------|---------------------|----------------------|---------------|-------------|-----|---------------------|-------|---------------|-----|
| Continuum Beliefs    |                   |                     |                      |               |             |     |                     |       |               |     |
|                      | -0.06             | 0.11                | -0.04                | -0.02         | 0.13        | -0.14| -0.10               | 0.00  | 0.16*         | 0.22**| 0.02 |
| Categorical Beliefs  |                   |                      |                      |               |             |     |                     |       |               |     |
| Prognostic Pessimism |                   |                     |                      |               |             |     |                     |       |               |     |
|                      | -0.20**           | 0.13                | 0.04                 | 0.13          | 0.01        | 0.13 | 0.15*               | 0.11  | -0.03         | -0.06| 0.01 |
|                      | -0.28***          | -0.27***            | -0.07                | -0.07         | 0.15*       | 0.01 | -0.18*              | -0.04 | 0.07          | 0.14 | 0.08 |
| GHSQ Informal        | -0.07             | 0.02                | -0.10                | 0.35***       | -0.46***    | -0.05| 0.03                | 0.14  | -0.23**        | -0.13| 0.21**|
| GHSQ Formal          | -0.08             | 0.17*               | -0.09                | 0.55***       | -0.29***    | -0.17*| -0.08               | 0.16* | -0.12         | 0.09 | 0.14 |
| GHSQ No help         | 0.25***           | 0.00                | -0.03                | -0.42***      | -0.37***    | 0.10 | 0.04                | 0.01  | 0.06          | 0.05 | -0.19*|
| r-AQ                 | -0.22**           | 0.24***             | 0.03                 | -0.15*        | -0.14*      | 0.18* | 0.40***             | 0.09  | -0.11         | -0.38***| -0.10 |
| SDS                  | -0.36***          | 0.30***             | 0.01                 | -0.05         | -0.07       | 0.00  | 0.51***             | 0.04  | -0.09         | -0.19**| -0.11 |
| r-LOC                | 0.08              | -0.01               | -0.02                | 0.07          | 0.04        | -0.02| -0.01               | -0.08 | -0.08         | 0.25***| 0.05 |
| Social Desirability  |                   |                     |                      |               |             |     |                     |       |               |     |
| r-LOC                | 0.02              | 0.07                | 0.09                 | -0.13         | -0.13       | -0.13| 0.09                | -0.03 | -0.09         | -0.08| 0.25***|
| Identification       | -0.14*            | 0.15*               | 0.31***              | -0.02         | 0.07        | -0.06| -0.10               | 0.03  | -0.09         | 0.27***| 0.09 |
| Age                  | 0.00              | -0.05               | 0.10                 | 0.28**        | 0.17*       | -0.15| -0.13               | -0.04 | 0.18*         | 0.05 | 0.02 |

Notes. Bolded values indicate significance. *p < .05, **p < .01, ***p < .001. Correlations for depression vignette shown on upper diagonal and correlations for schizophrenia vignette shown on lower diagonal. GHSQ Informal, intentions to seek help from informal sources; GHSQ Formal, intentions to seek help from formal sources; GHSQ No Help, intentions to not seek help; r-AQ, Revised Attribution Questionnaire; r-LOC, Revised Level of Contact Report.
Table 2  Relationships between continuum and categorical beliefs and revised-attribution questionnaire items for depression and schizophrenia vignettes

|                  | Continuum Beliefs | Categorical Beliefs | Danger | Pity | Segregation | Avoid | Blame | Anger | Helping | Fear | Help-Seeking | Social Desirability | r-LOC | Identification | Age |
|------------------|-------------------|---------------------|--------|------|-------------|-------|-------|-------|---------|------|-------------|-----------------------|-------|----------------|-----|
| Continuum Beliefs|                   |                     | -0.06  | -0.15*| -0.14       | -0.14 | -0.10 | 0.14  | -0.15*  | -0.08| 0.00        | 0.16                  | 0.22**| 0.02          |      |
| Categorical Beliefs|                 |                     | -0.20**| 0.25***| -0.01       | 0.12  | 0.22**| 0.08  | 0.12     | -0.04| 0.22**      | -0.05                  | 0.11  | -0.03         | -0.06 |
| Danger            |                   |                     | -0.14  | 0.22**| -0.29***    | 0.40***| 0.25***| 0.29***| 0.24***  | -0.21**| 0.33***     | -0.22**                | 0.03  | -0.09         | -0.24**|
| Pity              |                   |                     | -0.04  | 0.12   | -0.03       | -0.19**| -0.11  | -0.36***| -0.16*   | -0.16*| 0.33***     | -0.10                  | 0.16* | -0.05         | 0.12  |
| Segregation       |                   |                     | -0.28**| 0.31***| 0.20**      | 0.05  | 0.47***| 0.37***| 0.44***  | -0.19**| 0.58***     | -0.07                  | 0.02  | 0.03          | -0.11 |
| Avoid             |                   |                     | -0.30**| 0.24***| 0.14*       | 0.10  | 0.58***| 0.29***| 0.43***  | -0.45***| 0.49***     | -0.05                  | 0.02  | -0.13         | -0.20**|
| Blame             |                   |                     | 0.00   | -0.01  | 0.16*       | -0.34***| 0.30***| 0.20** | 0.37***  | -0.21**| 0.32***     | -0.21**                | 0.12  | -0.19**       | -0.30**|
| Anger             |                   |                     | -0.02  | -0.02  | 0.10        | -0.25***| 0.35***| 0.32***| 0.38***  | -0.31***| 0.58***     | -0.04                  | -0.01 | -0.08         | -0.18**|
| Helping           |                   |                     | 0.11   | -0.09  | -0.05       | 0.21***| -0.28***| -0.52***| -0.17*   | -0.25***| -0.22**     | 0.13                   | 0.10  | 0.10          | 0.22** |
| Fear              |                   |                     | -0.26**| 0.23**| 0.14        | -0.08  | 0.43***| 0.59***| 0.15*    | 0.34***| -0.39***    | 0.04                   | 0.03  | 0.01          | -0.16* |
| Help-seeking      |                   |                     | -0.15* | -0.03  | -0.04       | 0.17*  | -0.05  | -0.06  | -0.17*   | -0.11  | 0.10        | 0.05                   | 0.06  | -0.07         | 0.12  |
| Social Desirability|                 |                     | 0.08   | -0.01  | -0.02       | -0.06  | -0.04  | -0.08  | 0.09     | 0.06   | 0.03        | -0.02                  | 0.05  | -0.08         | -0.18**|
| r-LOC             |                   |                     | 0.02   | 0.07   | 0.01        | 0.13   | 0.07   | -0.06  | -0.16*   | -0.01  | 0.04        | -0.02                  | -0.09 | -0.08         | 0.25** |
| Identification    |                   |                     | -0.14* | 0.15*  | 0.01        | 0.16*  | 0.04   | 0.00   | -0.29***| -0.15*  | 0.15*       | 0.09                   | -0.04 | -0.09         | 0.27***|
| Age               |                   |                     | 0.00   | -0.05  | -0.11       | -0.04  | 0.00   | -0.09  | 0.14     | -0.09  | 0.19**      | -0.09                  | 0.10  | 0.18*         | 0.05  |

Notes. Bolded values indicate significance. *p < .05, **p < .01, ***p < .001. Correlations for depression vignette shown on upper diagonal and correlations for schizophrenia vignette shown on lower diagonal. r-LOC, Revised Level of Contact Report. Danger = dangerousness
Multiple Regression Analyses

Significant correlations were followed up by multiple regression analyses to explore whether continuum beliefs predicted various outcome variables when controlling for other potential predictors.

Depression Vignette Regression Analyses

Table 3 indicates that continuum beliefs did not significantly predict dangerousness, blame, or fear when controlling for other potential predictors. Rather, correct identification of depression was found to predict lower scores for all three variables.

Schizophrenia Vignette Regression Analyses

Table 4 shows that continuum beliefs significantly predicted lower prognostic pessimism, stigmatising attitudes (r-AQ), social distance, segregation, avoidance, and fear. However, they also predicted greater intentions to not seek help. These correlations varied in size from weak to moderate (Beta: 0.20–0.37). Correct identification of schizophrenia was a significant predictor of greater prognostic pessimism. Likewise, being male rather than female predicted greater avoidance and help-seeking.

Discussion

We found that endorsing continuum beliefs about the depression vignette had small but significant inverse correlations with dangerousness, blame, and fear. These correlations became non-significant when controlling for other predictors. Categorical beliefs were
| Predictors (IVs) | Continuum Beliefs | Identification\(^a\) | r-LOC | Gender (M vs. F) | Gender (O vs. F) | Age  |
|-----------------|------------------|----------------------|------|-----------------|-----------------|------|
| **Rational Pessimism** |                  |                      |      |                 |                 |      |
| B               | -0.20**          | 0.63***              | -0.01| 0.02            | -0.62           | 0.15 |
| Beta            | -0.22**          | 0.27***              | -0.01| 0.01            | -0.10           | 0.12 |
| **HS No-one**   |                  |                      |      |                 |                 |      |
| B               | 0.40***          | -0.16                | 0.07 | 0.57            | 0.14            | -0.13|
| Beta            | 0.27***          | -0.04                | 0.08 | 0.12            | 0.01            | -0.06|
| **r-AQ**        |                  |                      |      |                 |                 |      |
| B               | -0.13**          | -0.20                | 0.00 | 0.01            | -0.35           | -0.10|
| Beta            | -0.20**          | -0.12                | 0.01 | 0.01            | -0.08           | -0.12|
| **Social Distance** |                |                      |      |                 |                 |      |
| B               | -0.19***         | -0.01                | -0.01| 0.08            | -0.08           | -0.02|
| Beta            | -0.37***         | -0.01                | -0.04| 0.05            | -0.02           | -0.03|
| **Segregation** |                  |                      |      |                 |                 |      |
| B               | -0.28***         | -0.06                | 0.06 | -0.03           | -0.17           | -0.07|
| Beta            | -0.30***         | -0.02                | 0.10 | -0.01           | -0.03           | -0.06|
| **Avoidance**   |                  |                      |      |                 |                 |      |
| B               | -0.27**          | 0.00                 | -0.01| 0.57*           | -0.22           | -0.06|
| Beta            | -0.25**          | 0.00                 | -0.02| 0.16*           | -0.03           | -0.04|
| **Fear**        |                  |                      |      |                 |                 |      |
| B               | -0.23**          | 0.23                 | -0.01| 0.27            | -0.73           | -0.06|
| Beta            | -0.21**          | 0.08                 | -0.01| 0.08            | -0.09           | -0.04|
| **Help-Seeking** |            |                      |      |                 |                 |      |
| B               | -0.17            | -0.15                | -0.03| 0.91*           | -0.23           | 0.27 |
| Beta            | -0.10            | -0.03                | -0.03| 0.17*           | -0.02           | 0.12 |

Notes. Bolded values indicate significance. *p < .05, **p < .01, ***p < .001. a = Correct identification of mental illness, r-LOC, Revised Level of Contact Report; r-AQ, Revised Attribution Questionnaire; M, male; F, female; O, other; HS No-one = intentions to not seek help.
weakly positively correlated with social distance and more strongly correlated with dangerousness, avoidance, and fear. This pattern of findings indicates that continuum beliefs may be preferable to categorical beliefs with regards to holding lower depression stigma, largely due to the potential downside of categorical beliefs. These weak relationships are in line with the empirical research among adults which has found that continuum belief manipulations do not lead to reduced stigma towards people with depression (Buckwitz et al., 2020; Thibodeau, 2019). When the small magnitude of these relationships is considered, it is unsurprising that even successful manipulations of continuum and categorical beliefs do not lead to meaningful changes in depression stigma. Neither continuum nor categorical beliefs were associated with either help-seeking or helping intentions within the depression vignette.

Conversely, continuum beliefs about the schizophrenia vignette showed weak to moderate correlations with several stigma outcomes which retained significance when controlling for other predictors. There were moderate inverse relationships between continuum beliefs and social distance, prognostic pessimism, and stigmatising attitudes, including segregation, avoidance, and fear. Moreover, stronger categorical beliefs had weak to moderate correlations with greater prognostic pessimism, social distance, and stigmatising attitudes, including dangerousness, segregation, avoidance, and fear. This is in line with correlational findings in the adult literature (Peter et al., 2021; Thibodeau & Peterson, 2018; Thibodeau et al., 2018). These findings indicate that continuum and categorical beliefs have similar relationships to various stigma outcome variables for both adults and adolescents. This raises an important question: could continuum belief manipulations in relation to schizophrenia spectrum disorders (e.g., schizophrenia) reduce stigmatising attitudes in adolescents? Future research should examine this experimentally.

Surprisingly, the notable inverse relationships between continuum beliefs and stigma for the schizophrenia vignette did not translate into greater help-seeking or helping intentions. In fact, there was a moderate positive correlation between stronger continuum beliefs and greater intentions to not seek help for schizophrenia. This novel finding perhaps suggests that the more adolescents believe experiences associated with schizophrenia fall on a continuum, the more “normal” these experiences seem and as such, they may not require professional help. The result parallels Thibodeau and Peterson’s (2018) finding that continuum beliefs were negatively correlated with prosocial emotion (Thibodeau & Peterson, 2018), although most studies have found non-significant correlations between continuum beliefs and prosocial emotion (Peter et al., 2021). Similarly, stronger categorical beliefs predicted greater formal help-seeking intentions. Caution is needed in interpreting these findings since participants had to respond to a hypothetical situation. They had not actually experienced schizophrenia. Still, even finding lower intentions to seek help in relation to this hypothetical suggests caution in using interventions that highlight a continuum conceptualisation in schizophrenia if the aim is to increase help-seeking should such problems materialise in the future. The correlations between stigma and help-seeking intentions ranged from non-existent to weak for both depression and schizophrenia. Therefore, it makes sense that the weak-moderate relationships between continuum beliefs and stigma did not translate into meaningful increases in intentions to seek help.

These results suggest a possible downside to continuum beliefs, especially when considered in conjunction with the mixed research findings which have at times found continuum beliefs to be associated with greater anger (Angermeyer et al., 2015; Schomerus et al., 2013). We speculate that the mechanism may be the same for these undesirable outcomes. That is, by dissolving distinctions between mental illness and everyday experience, people may be stripped of the legitimacy of their mental illness (Schomerus et al., 2013).
Therefore, if schizophrenia symptoms are on a spectrum to everyday experience, one’s hypothetical need to seek help could decrease as the symptoms may be perceived as less severe. Future research could explore whether perceived severity is a potential mechanism via which continuum and categorical beliefs impact help-seeking intentions. Moreover, perceived severity may also be a mechanism via which continuum beliefs are correlated with lower public stigma. That is, appraising a mental illness as less severe may naturally lead to decreased stigma compared to more severe appraisals. Therefore, future research could also examine whether perceived severity mediates the relationship between continuum beliefs and stigma outcomes. Furthermore, the link between continuum beliefs and help-seeking needs to be examined within samples at high risk of developing schizophrenia (e.g., family history, sub-threshold symptoms). We also need to consider these findings in the context that continuum beliefs were not associated with formal or informal help-seeking measures for either vignette. This suggests that the risk of reduced help-seeking for people who endorse continuum beliefs may be small.

Familiarity with mental illness and correct identification of the mental illness depicted in the vignette were not associated with continuum beliefs for the schizophrenia vignette. However, they were both positively correlated with continuum beliefs about the depression vignette. Considering the higher prevalence of depression compared to schizophrenia spectrum disorders (Australian Bureau of Statistics, 2008; Commonwealth of Australia, 2011), familiarity with mental illness in general is more likely to encompass depression than schizophrenia. Further, the lack of correlation between familiarity and continuum beliefs replicates prior research findings (Wiesjahn et al., 2014).

Limitations

The sample was not representative of the age range of an adolescent population, as participants were predominantly aged 17-18 years. Likewise, the sample was predominantly female. Therefore, our findings are likely limited in their generalisability to younger adolescents and those who do not identify as female. Future research should target males and younger adolescents to explore whether the relationships between continuum beliefs and stigma remains the same. Further, the cross-sectional and correlational nature of the relationships within the current study limits our ability to make causal inferences. However, prior research indicates that changes to continuum beliefs can lead to changes in stigma (Peter et al., 2021; Schomerus et al., 2016; Violeau et al., 2020). Therefore, it is likely that the relationships between continuum and categorical beliefs and stigma found within the present study are causal ones.

Conclusions

In conclusion, the current study found continuum beliefs are associated with less stigma towards someone experiencing schizophrenia but not depression. Further, categorical beliefs are correlated with greater stigma towards people with schizophrenia and depression. Neither continuum nor categorical beliefs were associated with greater intentions to seek help for the depression vignette, although categorical beliefs were associated with greater formal help-seeking in the schizophrenia vignette. Furthermore, continuum beliefs were positively correlated with intentions to not seek help for the schizophrenia vignette. Overall, the nature of the relationships between continuum and categorical beliefs and various stigma outcomes appears similar for both adolescents and adults. Further research into
continuum belief interventions is needed to explore whether continuum belief explanations should be included in anti-stigma messaging targeting adolescents.

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Declarations

Conflicts of Interest There are no conflicts of interest to declare that are relevant to the content of this article.

Ethical Approval Ethics approval for the study was received from the Institutional Research Ethics Committee (HE2020/240) and all procedures were in accordance with the Helsinki Declaration of 1975, as revised in 2000.

Informed Consent All participants within this study provided written informed consent. Participants under the age of 16 also required written parental consent.

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