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### Journal

Journal of Clinical Psychology, 78(7)

### Authors

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### Publication Date

2022-07-01

### DOI

10.1002/jclp.23308

Peer reviewed



Published in final edited form as:

*J Clin Psychol.* 2022 July ; 78(7): 1491–1499. doi:10.1002/jclp.23308.

## Disability Self-Worth Relates to Lower Anxiety and Depression in People with Visual Impairment

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### Abstract

**Objective:** Visual impairment (VI) has been associated with depression and anxiety. Although researchers have identified several relevant individual differences associated with risk for depression and anxiety, researchers have not considered the role of personal disability identity (PDI) in depression and anxiety for people with VI. The purpose of this study was to examine the association between two aspects of PDI, perceived self-worth and personal meaning, and depression and anxiety among people with VI.

**Method:** Hierarchical linear regressions assessed relative contribution of PDI and disability characteristics to anxiety and depression in an international sample of adults with VI ( $N = 390$ ).

**Results:** Lower disability self-worth, but not lower personal meaning, was significantly associated with higher depression and anxiety, explaining more variance than demographic or disability-related factors.

**Conclusion:** By introducing disability self-worth as a correlate of depression and anxiety in VI, study findings suggest that considering and cultivating PDI for people with VI may be useful for improving clinical outcomes.

### Keywords

Disability; disability identity; visual impairment; depression; anxiety

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Visual impairment (VI) is experienced by 4.24% of the world's population (Whiteford et al., 2013). VI often leads to challenges related to communicating vision loss to others, feelings including frustration, anxiety and stress, and performing daily tasks with ocular discomfort (Latham et al., 2015). Systematic reviews indicate associations between VI and depression, anxiety, distress, loneliness, and emotional problems (Augestad, 2017; Ribeiro et al., 2015). A population-based cohort study of >34,000 people found VI was associated with a two-fold increase in anxiety (Brunes et al., 2017). Despite these associations, there

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We have no known conflict of interest to disclose.

is also abundant evidence to suggest many with VI experience healthy adjustment (Nyman et al., 2012; Senra et al., 2015). Questions remain about why and for whom VI increases risk for depression and anxiety. Researchers have identified several individual differences associated with depression and anxiety in people with VI, including changes in affect (Cosh et al., 2019), social exclusion (Macdonald et al., 2018), loneliness (Rokach et al., 2006), and self-perceived burdensomeness (Dempsey et al., 2012).

One potentially unifying individual difference that cuts across many of these features associated with depression and anxiety for people with VI is disability identity, which refers to self-concept as a person with a disability (Dunn & Burcaw, 2013). Disability identity has been proposed as a buffer against disability-related life stressors (i.e., physical, financial, and psychological barriers to accessibility, including discrimination), and research is beginning to support the role of disability identity in predicting positive life adjustment among people with disabilities (see Forber-Pratt et al., 2017). Personal disability identity (PDI) involves diverse attitudes towards having disability, including disability acceptance, disability affirmation, and disability pride (see Forber-Pratt et al., 2017). Disability pride and affirmation have been described in contrast to disability shame, as countering stigma-based notions of disability and as rooted in the disability rights movement (Darling & Heckert, 2010). Disability acceptance has been described in contrast to denial of disability, as positive emotive and cognitive views of the self as disabled (Hahn & Belt, 2004). The concept of acceptance of disability has also been operationalized outside of the disability identity literature (see, for example, Linkowski, 1971) based on theory regarding acceptance of loss (Dembo et al., 1956). These PDI attitudes have been positively associated with life satisfaction (Bogart, 2014), self-esteem (Bogart, 2014, 2015), general self-efficacy (Zapata, 2018), hopeful thinking (Zapata, 2020), and negatively associated with anxiety and depression (e.g. Bogart, 2015; see Forber-Pratt et al., 2017).

Two additional attitudinal subconstructs of PDI have been theorized: self-worth as a person with a disability (Putnam, 2005) and personal meaning experienced in disability (see Dunn & Burcaw, 2013). Disability self-worth encompasses the beliefs that (a) individuals with disability are of the same worth as able-bodied individuals, (b) individuals with disabilities can be productive contributors to society, and (c) individuals with disabilities are undervalued in society (Putnam, 2005). Citing research that people with disabilities search for meaning following disability onset, Dunn and Burcaw (2013) defined personal meaning as sense-making and finding significance or benefits associated with disability. Both PDI sub-constructs, self-worth and personal meaning, were recently operationalized in measurement (Zapata, 2019) and found to have evidence for internal consistency, structural validity, and convergent validity. These sub-constructs of PDI may be particularly relevant individual differences contributing to depression and anxiety, given self-worth (i.e., worthlessness) and personal meaning (i.e., diminished pleasure/interest) are key symptoms of depression.

The aim of the present study was to evaluate whether these attitudinal subconstructs of PDI, self-worth and personal meaning, relate to depression and anxiety in an international sample of people with VI. We hypothesized lower self-worth and personal meaning would predict greater anxiety and depression after accounting for demographic variables (i.e.,

age, gender, education level, employment status, household income, marital status) and impairment-related variables (i.e., visual status, stability of disability, visibility of disability, use of mobility tool, secondary disability, presence of family member with same disability).

## Method

### Participants and Procedures

Participants were 390 adults with VI ranging in age from 18 to 99 ( $M = 45$ ,  $SD = 16$ ). The majority of participants reported being White or European American (79%,  $n = 304$ ). Table 1 includes additional participant characteristics. The Institutional Review Board approved this study. Participants were recruited through mailing lists of the National Federation for the Blind and private Facebook groups related to VI. Adults with any level of visual impairment or blindness were invited to take an online questionnaire containing questions regarding demographic and impairment factors, attitudes towards disability, and psychological well-being. Prior to beginning the questionnaire, participants provided unsigned informed consent. The first author disclosed status as having VI in the study invitation. Stata (Version 16) was used to conduct all analyses.

### Measures

**Disability self-worth and personal meaning.**—The PDI instrument included 19 items intended to measure disability self-worth (11 items) and personal meaning in disability (8 items; Zapata 2019). Mean scores were calculated for each domain, with higher numbers indicating higher self-worth or more positive personal meaning in disability. Responses for both domains were on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Appropriate items were reverse scored. Disability self-worth items included “I have as much to offer the world as people without a disability,” and “Because of my disability, I feel worthless.” Personal meaning in disability items included “My disability gives me perspective on what matters in life,” and “My disability has made me a stronger person.” Item presentation was randomized. Subscales have evidence for good internal consistency (self-worth  $\alpha = .92$ , personal meaning  $\alpha = .86$ ). Subscales were found to have acceptable fit indices, and factor loadings ranged from .46 to .81 on self-worth and from .48 to .74 on personal meaning (Zapata, 2019).

**The Patient Health Questionnaire-4 (PHQ-4).**—Anxiety and depression symptoms were measured using a 4-item, seven-point Likert scale instrument (Kroenke et al., 2009). A single mean score was calculated for anxiety and depression items, with higher scores indicating higher anxiety/depression. Depression items were “feeling down, depressed, or hopeless” and having “little interest or pleasure in doing things.” Anxiety items were “feeling nervous, anxious, or on edge” and “not being able to stop or control worrying.” The PHQ-4 had high internal consistency ( $\alpha = .86$ ).

**Demographic characteristics.**—Participants reported on the following demographic information: (a) age,<sup>1</sup> (b) gender (female = 0, male = 1), (c) level of education (dummy coded as less than bachelor’s degree = 0, bachelor’s degree or higher = 1), (d) marital status (dummy coded as not married = 0, married = 1), (e) employment status (dummy coded

as unemployed = 0, part or full-time employment = 1), and (f) total household income, which was represented with nine ordinal categories. The nine response categories for income increased in increments of \$10,000 or \$20,000 per year and ranged from “less than \$10,000” to “\$140,000 or more.”

**Impairment characteristics.**—Participants reported on the following impairment-related information: (a) visual status (dummy coded as low vision = 0, totally blind or light vision only = 1), (b) secondary disability (dummy coded as one disability = 0, at least two disabilities = 1), (c) stability of disability (dummy coded as progressive disability = 0, stable disability = 1), (d) presence of one or more family members with the same disability (dummy coded as no family member has the same disability = 0, at least one family member has the same disability = 1), (e) visibility of disability (dummy coded as “never, rarely, or sometimes visible to others” = 0, “often or almost always visible to others” = 1), and (f) mobility tool use (dummy coded as does not use mobility tool = 0, uses cane, dog, or both = 1).

## Results

### Descriptive Statistics

Distributions of scores for items on PDI subscales, life satisfaction, and anxiety/depression indicated that subscale item scores were neither substantially skewed nor kurtotic. Subscale intercorrelations were as follows:  $-.23$  for personal meaning and anxiety/depression;  $-.47$  for self-worth and anxiety/depression;  $.35$  for self-worth and personal meaning.

### Hierarchical Regression Analysis

The Bonferroni calculation was used to control for Type 1 error and yielded a critical alpha of  $.004$ . Results of hierarchical linear regression are presented in Table 2. Anxiety/depression was entered as the dependent variable, six demographic variables were entered in Block 1, six impairment-related variables were entered in Block 2, and PDI subscales (self-worth and personal meaning) were entered in Block 3. Demographic variables accounted for a significant amount of variance in anxiety/depression,  $R^2 = .11$ ,  $F(6, 389) = 8$ ,  $p < .001$ . The following demographic variables were found to be negatively associated with anxiety/depression: male gender ( $\beta = -.23$ ,  $p < .001$ ), older age ( $\beta = -.17$ ,  $p < .001$ ), and being employed ( $\beta = -.17$ ,  $p = .002$ ). In Block 2, when impairment-related variables were added to the model, the amount of variance accounted for in anxiety/depression increased significantly,  $R^2 = .15$ ,  $F(12, 377) = 5$ ,  $p < .001$ . After the inclusion of impairment factors, age ( $\beta = -.19$ ,  $p = .001$ ), gender ( $\beta = -.15$ ,  $p = .002$ ), and employment ( $\beta = -.16$ ,  $p = .003$ ) remained significantly and negatively associated with anxiety/depression. In Block 3, when personal meaning and self-worth were added to the model, the amount of variance accounted for in anxiety/depression increased significantly,  $R^2 = .31$ ,  $F(14, 375) = 12$ ,  $p < .001$ . In the

<sup>1</sup>Zapata (in press) examined the association between anxiety/depression and group disability identity using a similar method and results indicated that age at diagnosis was not a significant predictor of anxiety/depression in a subsample of U.S. residents with VI, after accounting for the above demographic and impairment factors. Given that the inclusion of age at diagnosis would have eliminated 157 participants from analyses, due to participant non-responses on that particular open-ended item, the variable for age at diagnosis was not included in current analyses.

final model, anxiety/depression was significantly associated with self-worth ( $\beta = -.40, p < .001$ ), age ( $\beta = -.18, p < .001$ ), and gender ( $\beta = -.15, p < .001$ ), such that having higher self-worth as a person with a disability, being male, or being of older age predicted lower reported anxiety/depression.

## Discussion

This study considered associations among two novel attitudinal subconstructs of PDI, self-worth and personal meaning, and disability-related factors and anxiety and depression in an international sample of people with VI. As hypothesized, lower disability self-worth was significantly associated with increased depression and anxiety, explaining more variance than demographic or disability-related factors.

Our results suggest that disability identity, particularly low self-worth, significantly relates to increased anxiety and depression. This finding is important given disability self-worth is likely modifiable with interventions like Cognitive Behavioral Therapy for those with VI. These results also cohere and extend work finding that higher PDI relates to lower anxiety and depression in people with multiple sclerosis (Bogart, 2015). In our sample, the effects for self-worth were greater than personal meaning, indicating utility in prioritizing interventions likely to improve self-worth. While the exact mechanism for why higher disability self-worth leads to lower anxiety and depression is not fully understood, we hypothesize that disability-related self-worth reduces anxiety and depression by decreasing negative affective experiences (e.g. shame, guilt, sadness) and related cognitions (e.g. “I am not enough”) as well as by increasing behaviors (e.g. socializing) that contribute to greater positive affective experiences (e.g. joy, pride) and related cognitions (e.g. “I have a lot to offer.”).

The only other significant predictors of depression and anxiety in our sample were age, with older adults reporting less anxiety and depression, and self-identified biological sex, with males exhibiting less depression and anxiety than females, consistent with other research finding similar age effects in VI samples (Choi et al., 2018) and gender disparities in depression and anxiety (Leach et al., 2008). Notably, self-worth was the strongest predictor, indicating the importance of PDI as compared to disability-related or demographic factors.

## Limitations

This study was limited by only including self-report measures of disability, disability identity, and mental health symptoms, as well as only including dichotomous measures of continuous phenomena like degree of visual impairment. Additional research is warranted with more sensitive and specific measures of anxiety and depression. Some research suggests depression is greater than anxiety in those with VI (Cosh et al., 2018), however, we were unable to evaluate this possibility in our data due to our limited depression and anxiety items and the high correlations observed between these items. Future research is needed to conjointly assess relevant individual differences to determine the relative contribution of these constructs to anxiety and depression in those with VI.

## Conclusions

Identifying individual differences associated with anxiety and depression among those with VI has the potential to improve clinical interventions. This study coheres with research indicating socioemotional and mental health correlates of PDI (see Forber-Pratt et al., 2017). Our findings suggest that disability self-worth may be an important modifiable individual difference, implicating potential utility for cognitive-behavioral and other interventions that promote self-worth as a person with a disability.

## Acknowledgments

We would like to thank and acknowledge Dr. Frank C. Worrell, Dr. Zapata's graduate school mentor. Dr. Worrell provided guidance during the conception and data collection of the presented study.

## References

- Augestad LB (2017). Mental health among children and young adults with visual impairments: A systematic review. *Journal of Visual Impairment and Blindness*, 111(5), 411–425. 10.1177/0145482x1711100503
- Bogart KR (2014). The role of disability self-concept in adaptation to congenital or acquired disability. *Rehabilitation Psychology*, 59(1), 107–115. 10.1037/a0035800 [PubMed: 24611927]
- Bogart KR (2015). Disability identity predicts lower anxiety and depression in multiple sclerosis. *Rehabilitation Psychology*, 60(1), 105–109. 10.1037/rep0000029 [PubMed: 25580882]
- Brunes A, Flanders WD, & Augestad LB (2017). Physical activity and symptoms of anxiety and depression in adults with and without visual impairments: The HUNT Study. *Mental Health and Physical Activity*, 13, 49–56. 10.1016/j.mhpa.2017.09.001
- Choi HG, Lee MJ, & Lee SM (2018). Visual impairment and risk of depression: A longitudinal follow-up study using a national sample cohort. *Scientific Reports*, 8(1), 1–8. 10.1038/s41598-018-20374-5 [PubMed: 29311619]
- Cosh S, Carriere I, Nael V, Tzourio C, Delcourt C, & Helmer C (2019). The association of vision loss and dimensions of depression over 12 years in older adults: Findings from the Three City study. *Journal of Affective Disorders*, 243, 477–484. 10.1016/j.jad.2018.09.071 [PubMed: 30273886]
- Cosh S, von Hanno T, Helmer C, Bertelsen G, Delcourt C, & Schirmer H (2018). The association amongst visual, hearing, and dual sensory loss with depression and anxiety over 6 years: The Tromsø Study. *International Journal of Geriatric Psychiatry*, 33(4), 598–605. 10.1002/gps.4827 [PubMed: 29193338]
- Dembo T, Leviton GL, & Wright BA (1956). Adjustment to misfortune; a problem of social-psychological rehabilitation. *Artificial Limbs*, 3(2), 4–62.
- Dempsey LE, Karver MS, Labouliere C, Zesiewicz TA, & De Nadai AS (2012). Self-Perceived Burden as a Mediator of Depression Symptoms Amongst Individuals Living With a Movement Disorder. *Journal of Clinical Psychology*, 68(10), 1149–1160. 10.1002/jclp.21901 [PubMed: 22814900]
- Dunn DS, & Burcaw S (2013). Disability identity: Exploring narrative accounts of disability. *Rehabilitation Psychology*, 58(2), 148–157. 10.1037/a0031691 [PubMed: 23437994]
- Forber-Pratt AJ, Lye DA, Mueller C, & Samples LB (2017). Disability identity development: A systematic review of the literature. *Rehabilitation Psychology*, 62(2), 198–207. 10.1037/rep0000134 [PubMed: 28406650]
- Kroenke K, Spitzer RL, Williams JBW, & Löwe B (2009). An Ultra-Brief Screening Scale for Anxiety and Depression: The PHQ-4. *Psychosomatics*, 50(6), 613–621. 10.1016/s0033-3182(09)70864-3 [PubMed: 19996233]
- Latham K, Baranian M, Timmis M, & Pardhan S (2015). Emotional health of people with visual impairment caused by retinitis pigmentosa. *PLoS ONE*, 10(12), 1–17. 10.1371/journal.pone.0145866



- Leach LS, Christensen H, Mackinnon AJ, Windsor TD, & Butterworth P (2008). Gender differences in depression and anxiety across the adult lifespan: The role of psychosocial mediators. *Social Psychiatry and Psychiatric Epidemiology*, 43(12), 983–998. 10.1007/s00127-008-0388-z [PubMed: 18575787]
- Linkowski DC (1971). A scale to measure acceptance of disability. *Rehabilitation Counseling Bulletin*, 14(4), 236–244.
- Macdonald SJ, Deacon L, Nixon J, Akintola A, Gillingham A, Kent J, Ellis G, Mathews D, Ismail A, Sullivan S, Dore S, & Highmore L (2018). ‘The invisible enemy’: disability, loneliness and isolation. *Disability and Society*, 33(7), 1138–1159. 10.1080/09687599.2018.1476224
- Nyman SR, Dibb B, Victor CR, & Gosney MA (2012). Emotional well-being and adjustment to vision loss in later life: A meta-synthesis of qualitative studies. *Disability and Rehabilitation*, 34(12), 971–981. 10.3109/09638288.2011.626487 [PubMed: 22066708]
- Putnam M (2005). Conceptualizing disability: Developing a framework for political disability identity. *Journal of Disability Policy Studies*, 16(3), 188–198. 10.1177/10442073050160030601
- Ribeiro MVMR, Hasten-Reiter HN, Ribeiro EAN, Jucá MJ, Barbosa FT, & de Sousa-Rodrigues CF (2015). Association between visual impairment and depression in the elderly: A systematic review. *Arquivos Brasileiros de Oftalmologia*, 78(3), 197–201. 10.5935/0004-2749.20150051 [PubMed: 26222114]
- Rokach A, Lechcier-Kimel R, & Safarov A (2006). Loneliness of people with physical disabilities. *Social Behavior and Personality*, 34(6), 681–700. 10.2224/sbp.2006.34.6.681
- Senra H, Barbosa F, Ferreira P, Vieira CR, Perrin PB, Rogers H, Rivera D, & Leal I (2015). Psychologic adjustment to irreversible vision loss in adults: A systematic review. *Ophthalmology*, 122(4), 851–861. 10.1016/j.ophtha.2014.10.022 [PubMed: 25573719]
- Whiteford HA, Degenhardt L, Rehm J, Baxter AJ, Ferrari AJ, Erskine HE, Charlson FJ, Norman RE, Flaxman AD, Johns N, Burstein R, Murray CJL, & Vos T (2013). Global burden of disease attributable to mental and substance use disorders: Findings from the Global Burden of Disease Study 2010. *The Lancet*, 382(9904), 1575–1586. 10.1016/S0140-6736(13)61611-6
- Zapata MA (2018). Personal disability identity in retinitis pigmentosa. *Rehabilitation Psychology*, 63(4), 512–520. 10.1037/rep0000238 [PubMed: 30211602]
- Zapata MA (2019). Personal disability identity measurement: Self-worth and personal meaning (Unpublished Doctoral Dissertation). ProQuest ID: Zapata\_berkeley\_0028E\_19275. Merritt ID: ark:/13030/m5t20b0n. Retrieved from <https://escholarship.org/uc/item/1s79b3gt>
- Zapata MA (2020). Disability affirmation and acceptance predict hope among adults with physical disabilities. *Rehabilitation Psychology*, 65(3), 291–298. 10.1037/rep0000364 [PubMed: 32804533]
- Zapata MA (in press). Group identity in blindness groups predicts life satisfaction and lower anxiety and depression. *Rehabilitation Psychology*. 10.1037/rep0000432



**Table 1**

## Participant Characteristics (N = 390)

Characteristic	Statistic
Age (SD)	45 (16)
Male	35% (136)
Race/Ethnicity	
White	79% (304)
Black or African American	5% (18)
American Indian or Alaska Native	<1% (1)
Asian	4% (15)
Native Hawaiian or Pacific Islander	<1% (1)
Hispanic/Latino (may have endorsed others)	9% (36)
Mixed race/multiple ethnicities	5% (18)
Other race/ethnicity	8% (29)
Employment Status	
Part or full-time employment	57% (222)
Unemployed	43% (168)
Income	
Less than \$10,000	7% (27)
\$10,000 to \$19,999	8% (32)
\$20,000 to \$39,999	20% (78)
\$40,000 to \$59,999	14% (55)
\$60,000 to \$79,999	14% (55)
\$80,000 to \$99,999	12% (47)
\$100,000 to \$119,999	10% (40)
\$120,000 to \$139,999	4% (17)
\$140,000 or higher	10% (39)
Bachelor's degree or higher	61% (236)
Married	50% (194)
Cause(s) of VI	
Stargardt disease	3% (11)
Retinitis pigmentosa	26% (98)
Macular degeneration	1% (3)
Glaucoma	5% (19)
Cataracts	1% (3)
Diabetic retinopathy	1% (5)
Stroke	1% (5)
Other cause	31% (116)
Multiple causes	31% (116)
Totally blind or light perception (versus partial vision)	28% (109)
More than one impairment	25% (97)
Family member with same condition	34% (131)

Characteristic	Statistic
Stable (versus progressive) condition	32% (123)
Uses mobility tool (versus does not use)	60% (235)
Disability visible to others at least most of the time	41% (160)

*Note:* Percentages might not sum to 100 as a result of rounding, item non-response, or multiple response selection.

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**Table 2.**

Hierarchical Multiple Regression with Anxiety/Depression (N = 390)

		<i>B</i>	<i>SE</i>	[95% C.I.]	<i>B</i>	<i>R</i> <sup>2</sup>	Adj. <i>R</i> <sup>2</sup>
Step 1	Constant	2.84**	.16	2.51, 3.16		.11**	.10
	Age	-.01**	<.01	-.02, -.01	-.23		
	Male	-.30**	.08	-.46, -.13	-.17		
	Employed	-.28**	.09	-.46, -.10	-.17		
Step 2	Constant	2.95**	.18	2.60, 3.30		.15**	.12
	Age	-.01**	<.01	-.02, -.01	-.19		
	Male	-.27**	.08	-.43, -.10	-.15		
	Employed	-.28**	.09	-.46, -.09	-.16		
Step 3	Constant	4.66**	.26	4.15, 5.18		.31**	.29
	Age	-.01**	<.01	-.01, <-.01	-.18		
	Male	-.27**	.08	-.42, -.12	-.15		
	Self-Worth	-.51**	.06	-.63, -.39	-.40		

Note: *B* indicates unstandardized coefficient.

Variables with *p*-values above .01 not displayed.

\* *p* < .01.

\*\* *p* < .004.