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Depressive Symptoms, Self-Reported Physical Functioning, and Identity in Community-Dwelling Older Adults

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Abstract

Objective—To examine the relationship between self-reported physical functioning and depressive symptoms by testing the mediation of identity processes in linking this relationship.

Methods—Sixty-eight older adults (mean age= 74.4) participated in this cross-sectional study. Participants completed measures of physical functioning (Physical Symptoms Checklist), depressive symptoms (CESD-20) and identity processes (IES-G).

Results—The relationship between physical functioning and depressive symptoms was partially mediated by sensitivity of older adults to feedback from experiences, the process known as identity accommodation (Whitbourne, Sneed, & Skultety, 2002).

Conclusion—Not only are physical changes relevant to negative psychological outcomes in later adulthood, but it is the interpretation of these changes that seems to have particular relevance for aging individuals. Though preliminary based on cross-sectional data, the findings suggest that examining individual differences in sensitivity to aging stereotypes may help identify factors related to depressive symptoms in later adulthood. Future research is needed to disentangle these interrelated concepts.

Keywords

physical functioning; identity; depressive symptoms; older adults

Introduction

The aging process presents challenges to middle-aged and older adults as they encounter alterations in their physical and cognitive functioning, ranging from losses in mobility, aerobic capacity, reaction time, and memory (Whitbourne, 2008). These changes affect not only the individual's ability to carry out important daily activities, but also have an impact on the sense of self or identity. Previous research examining the subjective impact of age-related physical changes has established a positive relationship between the tendency to avoid internalizing these changes and the maintenance of high self-esteem (Sneed & Whitbourne, 2003; Whitbourne & Collins, 1998). This research is consistent with the broader literature on the protective effect of maintaining a positive attitude toward personal aging on longevity and other measures of health (Levy & Leifheit-Limson, 2009; Levy, Slade, Kunkel, & Kasl, 2002). Conversely, those older adults who are most at risk for developing depressive symptoms would, according to this view, be most likely to be particularly vulnerable to age-related negative stereotypes.

In the present study, attitudes toward personal aging were operationalized in terms of Identity Process Theory (IPT; Whitbourne, 1986), which proposes that individuals may

approach age-related changes in physical functioning in terms of the processes of identity assimilation (maintaining a consistent view of the self in the face of age-related changes), identity accommodation (changing identity to an exaggerated degree in response to age-related changes), and identity balance (maintaining a consistent view of the self while changing as needed in response to physical aging).

Reliance on identity accommodation among middle-aged and older adults is associated with high levels of neurotic self-reflection, low self-esteem (Sneed & Whitbourne, 2003), and negative memory control beliefs (Jones, Whitbourne, Skultety, & Whitbourne, 2009). We propose that individuals who overuse identity accommodation will be more sensitive to the effects of physical issues in later adulthood compared to the use of the other two processes. Conversely, those older adults who incorporate age-related changes in physical functioning into their identities in a gradual fashion through identity balance are able to maintain high self-esteem even as they recognize their limitations. Identity assimilation, which involves a more defensive approach to age-related changes (Whitbourne et al., 2002), may present certain risks when these changes require adaptive behavioral strategies, but nevertheless allows older individuals to maintain a high self-esteem by remaining protected from negative self-attributions of socially undesirable age-related qualities (Whitbourne & Sneed, 2002). Thus, based on previous research, we expected there to be a positive relationship between identity accommodation and depressive symptoms, and a negative relationship between identity balance and identity assimilation and depressive symptoms. We further tested how the identity processes could mediate the relationship between self-reported physical functioning and depressive symptoms.

Method

Participants and Procedure

The sample consisted of 68 older adults ranging from 66 to 91 years (M age = 74.4 years, SD = 6.4; 71% female; see Table 1). Participants were recruited from the community through advertisements and news articles. Inclusion criteria were age 65 years and older, relatively good self-reported health with no history of neurologic or psychiatric disorder other than depression, no history of substance abuse or dependence, the ability to travel to the campus to participate in the study, and the ability to participate in computerized testing.

Measures

1. Demographic Questionnaire—A self-report measure asked participants to provide information on age, gender, education, income, ethnicity, marital status, medical diagnoses and current medications.

2. Identity and Experiences Scale-General (IES-G)—The IES-G (Whitbourne et al., 2002) is a 33-item self-report questionnaire consisting of three 11-item subscales measuring identity assimilation, identity accommodation and identity balance. Each item is rated on a scale of 1 (“not like me at all”) to 7 (“completely like me”). Sample items on the identity assimilation scale are: “don’t spend much effort reflecting on who I am,” “not very interested in advice from others,” and “like to see myself as stable, consistent, and unlikely to change.” Items on the identity accommodation scale include: “have many doubts and questions about myself,” “often wonder whether others like me,” and “very influenced by what others think.” The identity balance subscale includes items such as: “try to keep a steady course in life but am open to new ideas,” and thus incorporates elements of both identity assimilation (“try to keep a steady course”) and identity accommodation (“am open to new ideas”). Reliabilities as determined by coefficient alphas were in the range reported in prior

research: .77 (identity assimilation), .86 (identity accommodation), and .84 (identity balance).

3. Center for Epidemiological Studies Depression Scale-20 (CESD-20)—The CESD-20 (Radloff, 1977) is a 20-item self-report measure of depressive symptoms. It has strong internal consistency reliability (range of .85 to .90) and demonstrates criterion and construct validity (e.g. (Davey, Halverson, Zonderman, & Costa, 2004; Gatz & Hurwicz, 1990; Hertzog, Van Alstine, Usala, Hultsch, & R., 1990). Sample items include “I felt that I was just as good as other people”, “I had trouble keeping my mind on what I was doing,” “I felt depressed” and “I felt that everything I did was an effort”. Reliability in the current sample as measured by coefficient alpha was .73.

4. Physical Symptoms Checklist (PSC)—The PSC is a 44-item instrument that assesses a broad spectrum of physical symptoms (Cameron, Leventhal, & Leventhal, 1993; 1995). Participants rated the extent to which they experienced each symptom over the past week (e.g. loss of strength, dizziness, skin rash, numbness, swelling, urinary difficulties, headaches, vision problems, hearing problems, blood pressure, irregular heartbeat). Each item is scored 0-3 (0=no, 1=yes, mild, 2=yes, moderate, and 3=yes, severe). Two items on the PSC overlap with the CESD-20 (changes in appetite and difficulty sleeping); therefore these two items were excluded from the PSC. Reliability in the current sample as measured by coefficient alpha was .85.

Results

Table 2 lists the intercorrelations among the PSC, CESD-20 and the IES-G subscales. As can be seen from this table, total CESD-20 scores were significantly positively correlated with IAC (.47) and PSC (.39) scores. Regression analyses were conducted to test the hypothesized relationship between PSC and CESD-20 scores, and the mediation of the relationship between PSC scores and CESD-20 scores by IES-G subscales.

In the initial model, PSC was found to be a significant predictor of CESD-20 scores ($\beta=.359$, $p=.001$, see Table 3) such that higher PSC scores were related to higher CESD-20 scores. Since excluding the two items (appetite and sleep) from the PSC that overlap with the CESD-20 did not alter the models, we retained the models that include these items.

Next, models were tested as part of Baron and Kenny's mediational criteria, to determine relationships between physical symptoms and each of the three identity processes. PSC scores were significantly related to identity accommodation ($\beta=.381$, $p=.008$, see Table 3) but not with identity balance or identity assimilation.

Next, a model was built including the three identity processes and PSC to predict depressive symptoms. PSC ($\beta=.235$, $p=.028$) and identity accommodation ($\beta=.390$, $p=.000$) significantly predicted CESD-20. The relationships between identity assimilation and CESD-20 was a trend ($p=.081$; discussed later) whereas identity balance was not significant.

A final mediational model was then tested that included the effects of identity accommodation mediating the relationship between PSC and CESD-20. In this analysis, identity accommodation satisfied the criteria of a mediating variable as set forth by Baron and Kenny (1986). Specifically, PSC was associated with identity accommodation. PSC was associated with CESD-20, and when identity accommodation was entered into the model with PSC, it was a significant mediating variable in the equation. In addition, we tested the significance of the mediating model with the Sobel test, which indicated that identity accommodation was a significant mediating variable between PSC and CESD-20.

(Sobel=2.17, $p=.03$). Since the other two identity processes were not significant predictors of CESD-20, we did not test them as mediators.

Discussion

The overall aim of this study was to examine relationships among self-reported physical functioning, identity processes and depressive symptoms in community-dwelling older adults. The primary finding from this study is that the tendency to use identity accommodation partly mediated the relationship between physical functioning and depressive symptoms. That is, there were direct relationships between physical functioning and identity accommodation, and between identity accommodation and depressive symptoms such that the overall relationship between physical functioning and depressive symptoms was partly explained by the tendency for individuals to question and change their identities due to incorporation of society's negative attitudes toward aging.

The relationship between identity accommodation and depressive symptoms found in this study extends earlier research in which a negative relationship was reported to exist between identity accommodation and self-esteem. Given that the majority of the sample in the present study was female, the findings fit with previous literature suggesting that, particularly for women, (Skultety & Whitbourne, 2004) an unstable sense of self may serve as a risk factor for reporting depressive symptoms (Roberts, Shapiro, & Gamble, 1999). Contrary to prediction, identity assimilation and identity balance did not provide a buffering effect in the relationship between physical functioning and depressive symptoms. In previous research involving self-esteem as the measure of adaptive functioning, there were clear relationships to identity assimilation and balance. It is possible that the measure of depressive symptoms tapped a different facet of adaptation; namely, the experience of dysphoric mood. According to the present findings, the risk of depressive symptoms is heightened to the extent that aging individuals attend to negative feedback from both the social context and their own experiences (Hess, Birren, & Schaie, 2006). Individuals who do apply this feedback to themselves are, then, less protected against the depressive symptoms of, for example, feelings of worthlessness, futility, and low self-esteem.

Given the non-significant trend for identity assimilation, we are reluctant to draw conclusions about the potentially protective effect of identity assimilation against the experience of depressive symptoms. However, in view of previous findings on the defensive tendencies shown by those older adults who utilize identity assimilation to a high degree (Whitbourne et al., 2002), it seems possible that one of identity assimilation's main advantages is to bolster the individual's resistance to real or imagined negative feedback based on society's views of the older population (Cramer, 2007). That the previous findings were not replicated in the present study may reflect power issues related to the small sample size or to conceptual differences between self-esteem as a positive index of functioning and depressive symptoms as an index of the experience of negative affect.

Integral to discussing this finding within the broader literature is acknowledging the potential for a bi-directional relationship between self-reported physical functioning and depressive symptoms. Although the present study used a mediational model testing subjective reports of physical symptoms as predictive of depressive symptoms through the route of identity accommodation, the cross-sectional nature of the study limits the conclusions that can be made about the direction of causality. It is possible that individuals in the sample with a long-standing history of depressive symptoms do in fact experience higher rates of physical symptoms and poorer self-reported health, as has been shown in previous studies (Atkinson et al., 2007). In that case, the role of identity accommodation would serve to heighten the relevance of age-related changes in functioning among those

older adults with high levels of dysphoric mood. Symptoms of depression have been found to predict change in physical health after burn injury (Thombs, et al., 2007), physical health status 12 months after acute coronary syndrome (Thombs et al., 2008) and declines in physical performance (Everson-Rose et al., 2005). Conversely, somatic symptoms at one point in time have been found to predict depression one year later (Nakao & Yano, 2006). Without longitudinal data, the present meditational model remains open to these alternative interpretations (MacKinnon, Fairchild, & Fritz, 2007). Nonetheless, our study provides preliminary evidence to support the role of the individual's interpretation of changes in physical functioning in elevating the experience of depressive symptoms.

From an aging-related service delivery perspective, a better understanding of the relationship between identity and depressive symptoms can provide important insight into working with older adults. The role of identity in treatment of mood disorders has been recognized by others. For example, Kraus (1996) developed a psychotherapy based on identity issues for individuals experiencing depression, in which he asserts that individuals who have a “diffuse and unstable identity” or “rigidity of his/her identity” are most at risk for experiencing depression (p. 197). Interestingly, these ideas capture the essence of the two opposing identity processes of identity assimilation and accommodation, respectively. More broadly, cognitive behavioral therapy (CBT) has been successfully used with older adults with depression (e.g. (Laidlaw et al., 2008; Landreville, Landry, Baillargeon, Guerette, & Matteau, 2001), and although there is still debate (Laidlaw, 2001), CBT can be delivered to older adults with depression without major modifications, CBT can specifically help older adults with physical limitations cope with their depression, and help older adults to resist defining themselves in terms of negative age-related stereotypes.

There are several future directions that can be taken to expand upon the current research to help elucidate the relationships among, physical symptoms, identity, and depression. Since the current study utilized a self-report measure of physical symptoms as a proxy for health, future research should utilize more in-depth measures of health including functional status, physical activity, smoking, body mass index, and drinking behaviors and more objective information sources, such as medical records. Societal influences of identity in physically compromised older adults also play an important role in depressive symptomology and can be further tested through future longitudinal studies. Furthermore, future research should expand the samples to include greater variation in social class and ethnicity. Nevertheless, this investigation supports the role that the individual's approach to experiences in later life may play in the understanding of how age-related physical changes relate to depressive symptoms.

Researchers have long known that there is not a simple linear relationship between age and depressive symptoms. Although at one time, rates of depression among older adults were estimated to be as high as 65% (Pfeiffer & Busse, 1975), research conducted during the past few decades has suggested rates among the older population that were considerably lower (Charney et al., 2003; Christensen et al., 1999; Nguyen & Zonderman, 2006). The present findings suggest that individual differences in identity processes play an important role and that older adults most at risk for experiencing low self-worth, hopelessness and worthlessness are the ones who are particularly likely to show sensitivity to the negative feedback about aging associated with alterations in physical functioning.

References

- Atkinson HH, Rosano C, Simonsick EM, Williamson JD, Davis C, Ambrosius WT, et al. Cognitive function, gait speed decline, and comorbidities: the health, aging and body composition study. *J Gerontol A Biol Sci Med Sci* 2007;62:844–850. [PubMed: 17702875]

- Baron RM, Kenny DA. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology* 1986;51:1173–1182. [PubMed: 3806354]
- Charney DS, Reynolds CF 3rd, Lewis L, Lebowitz BD, Sunderland T, Alexopoulos GS, et al. Depression and Bipolar Support Alliance consensus statement on the unmet needs in diagnosis and treatment of mood disorders in late life. *Archives of General Psychiatry* 2003;60:664–672. [PubMed: 12860770]
- Christensen H, Jorm AF, Mackinnon AJ, Korten AE, Jacomb PA, Henderson AS, et al. Age differences in depression and anxiety symptoms: a structural equation modelling analysis of data from a general population sample. *Psychological Medicine* 1999;29:325–339. [PubMed: 10218924]
- Cramer P, Jones CJ. Defense mechanisms predict differential lifespan change in self-control and self-acceptance. *Journal of Research in Personality* 2007;41:841–855.
- Davey A, Halverson CF Jr, Zonderman AB, Costa PT Jr. Change in depressive symptoms in the Baltimore longitudinal study of aging. *Journal of Gerontology: Psychological Sciences* 2004;59:270–277.
- Everson-Rose SA, Skarupski KA, Bienias JL, Wilson RS, Evans DA, Mendes de Leon CF. Do depressive symptoms predict declines in physical performance in elderly, biracial population? *Psychosomatic Medicine* 2005;2005:609–615. [PubMed: 16046375]
- Gatz M, Hurwicz ML. Are old people more depressed? Cross-sectional data on Center for Epidemiological Studies Depression Scale factors. *Psychology and Aging* 1990;5:284–290. [PubMed: 2378694]
- Hertzog C, Van Alstine J, Usala PD, Hultsch DF, R. D. Measurement properties of the Center for Epidemiological Studies Depression Scale (CES-D) in older populations. *Psychological Assessment* 1990;2:64–72.
- Hess, TM.; Birren, JE.; Schaie, KW. *Handbook of the psychology of aging*. 6th ed.. Elsevier; Amsterdam Netherlands: 2006. Attitudes toward aging and their effects on behavior.; p. 379-406.
- Jones KM, Whitbourne SK, Skultety KM, Whitbourne SB. Identity processes and memory controllability in middle and later adulthood. *Journal of Applied Gerontology*. 2009
- Kraus A. Psychotherapy based on identity problems of depressives. *American Journal of Psychotherapy* 1996;49:197–202. [PubMed: 7677200]
- Laidlaw K. An empirical review of cognitive therapy for late life depression: does research evidence suggest adaptations are necessary for cognitive therapy with older adults? *Clinical Psychology & Psychotherapy* 2001;8:1–14.
- Laidlaw K, Davidson K, Toner H, Jackson G, Clark S, Law J, et al. A randomised controlled trial of cognitive behaviour therapy vs treatment as usual in the treatment of mild to moderate late life depression. *International Journal of Geriatric Psychiatry* 2008;23:843–850. [PubMed: 18311844]
- Landreville P, Landry J, Baillargeon L, Guerette A, Matteau E. Older adults' acceptance of psychological and pharmacological treatments for depression. *Journals of Gerontology: Psychological Science* 2001;56:P285–291.
- Levy BR, Leifheit-Limson E. The stereotype-matching effect: greater influence on functioning when age stereotypes correspond to outcomes. *Psychology and Aging* 2009;24:230–233. [PubMed: 19290757]
- Levy BR, Slade MD, Kunkel SR, Kasl SV. Longevity increased by positive self-perceptions of aging. *Journal of Personality and Social Psychology* 2002;83:261–270. [PubMed: 12150226]
- MacKinnon DP, Fairchild AJ, Fritz MS. Mediation Analysis. *Annual Review of Psychology* 2007;58:593–614.
- Nakao M, Yano E. Somatic symptoms for predicting depression: one-year follow-up study in annual health examinations. *Psychiatry and Clinical Neurosciences* 2006;60:219–225. [PubMed: 16594947]
- Nguyen HT, Zonderman AB. Relationship between age and aspects of depression: consistency and reliability across two longitudinal studies. *Psychology and Aging* 2006;21:119–126. [PubMed: 16594797]

- Pfeiffer, E.; Busse, E. Mental disorders in later life, affective disorders, paranoid, neurotic and situational reactions.. In: Busse, E.; Pfeiffer, E., editors. *Mental illness in later life*. American Psychiatric Association; Washington DC: 1975.
- Radloff LS. The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement* 1977;1:385–401.
- Roberts JE, Shapiro AM, Gamble SA. Level and perceived stability of self-esteem prospectively predict depressive symptoms during psychoeducational group treatment. *British Journal of Clinical Psychology* 1999;38(Pt 4):425–429. [PubMed: 10590831]
- Skultety KM, Whitbourne SK. Gender differences in identity processes and self-esteem in middle and later adulthood. *Journal of Women & Aging* 2004;16:175–188. [PubMed: 15149931]
- Sneed JR, Whitbourne SK. Identity processing and self-consciousness in middle and later adulthood. *Journal of Gerontology: Psychological Sciences* 2003;58:P313–319.
- Thombs BD, Bresnick MG, Magyar-Russell G, Lawrence JW, McCann UD, Fauerbach JA. Symptoms of depression predict change in physical health after burn injury. *Burns* 2007;33:292–298. [PubMed: 17382189]
- Thombs BD, Ziegelstein RC, Stewart DE, Abbey SE, Parakh K, Grace SL. Physical health status assessed during hospitalization for acute coronary syndrome predicts mortality 12 months later. *Journal of Psychosomatic Research* 2008;65:587–593. [PubMed: 19027449]
- Whitbourne, SK. *The me I know: A study of adult identity*. Springer-Verlag; New York: 1986.
- Whitbourne, SK. *Adult development and aging: Biopsychosocial perspectives*. Wiley; New York: 2008.
- Whitbourne SK, Collins KJ. Identity processes and perceptions of physical functioning in adults: Theoretical and clinical implications. *Psychotherapy: Theory, Research, Practice, Training* 1998;35:519–530.
- Whitbourne, SK.; Sneed, JR. The paradox of well-being, identity processes, and stereotype threat: Ageism and its potential relationships to the self in later life.. In: Nelson, TD., editor. *Ageism: Stereotyping and prejudice against older persons*. The MIT Press; 2002. p. 247-273.
- Whitbourne SK, Sneed JR, Skultety KM. Identity processes in adulthood: Theoretical and methodological challenges. *Identity* 2002;2:29–45.

Table 1

Descriptive statistics for demographic factors and self-report measures (n=68)

Variable	Participants	
	<i>M</i>	<i>SD</i>
Age	74.4	6.4
Education	16.4	2.6
% Female	71	-
Identity Assimilation	47.6	10.4
Identity Accommodation	34.9	12.5
Identity Balance	59.5	9.3
Physical Symptoms Checklist	13.9	10.4
CESD-20	10.7	9.5

Note. CESD-20= 20-item Center for Epidemiologic Studies of Depression Scale

Table 2

Intercorrelations among variables of interest for the sample

Variable	CESD-20	IAS	IAC	IBL	PSC
1. CESD-20	-	-.07	.47**	-.13	.39**
2. IAS		-	.22	.13	.09
3. IAC			-	-.34**	.32**
4. IBL				-	-.08
5. PSC					-

Note:

CESD-20=sum of 20-item CESD responses, IAS=Identity Assimilation, IAC=Identity Accommodation, IBL=Identity Balance, PSC =Sum of items on Physical Symptoms Checklist

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).

Table 3

Regression models predicting depressive symptoms including self-reported physical symptoms, the identity processes and the final mediational model

Source	β	t	p
<u>Model 1- Predicting depressive symptoms</u>			
Physical symptoms	.359	3.59	.001
<u>Model 2 – Predicting each identity process with Physical Symptoms</u>			
IAC	.381	2.74	.008*
IAS	.088	.729	.469
IBL	-.071	-.680	.499
<u>Model 3- Predicting depressive symptoms</u>			
Physical symptoms	.235	2.26	.028
IAC	.390	3.74	.000
IAS	-.195	-1.78	.081
IBL	.099	-.402	.689
<u>Model 4 – Mediational model</u>			
Physical symptoms	.223	2.20	.031
IAC	.312	3.54	.001

Note:

Model 1: Physical symptoms predicting depressive symptoms

Model 2: Physical symptoms independently predicting each of the three identity processes (IAC, IAS, and IBL)

Model 3: Physical symptoms and all three identity processes predicting depressive symptoms

Model 4: Final mediational model including IAC and physical symptoms predicting depressive symptoms

*
p<.05