

# Perceived Social Support Predicts Increased Conscientiousness During Older Adulthood

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**Objectives.** This study examined whether perceived social support predicted adaptive personality change in older adulthood, focusing on the trait of conscientiousness. We tested this hypothesis both at the broad domain level and with respect to the specific lower order facets that comprise conscientiousness: order, self-control, industriousness, responsibility, and traditionalism.

**Methods.** A sample of 143 older adults (aged 60–91) completed measures of conscientiousness and social support during 2 assessments 7 months apart.

**Results.** Social support and conscientiousness were positively correlated among older adults. Moreover, older adults who perceived greater social support at baseline were more likely to gain in conscientiousness over time. The magnitude of this effect was relatively similar across the order, self-control, and industriousness facets.

**Discussion.** Perceived social support provides multiple benefits later in life, and the current results add to this literature by showing that it also promotes conscientiousness. As conscientiousness is linked to a variety of positive outcomes later in life, including health, future research should examine whether conscientiousness change may be an important mechanism through which social support enhances resilience in older adulthood.

**Key Words:** Conscientiousness—Older adulthood—Social support—Personality development.

SOCIAL support corresponds to physical (Berkman, Glass, Brissette, & Seeman, 2000; Cohen, 2004), cognitive (Seeman, Lusignolo, Albert, & Berkman, 2001), and psychological (Turner, 1981; Winefield, Winefield, & Tigemann, 1992) health benefits. However, it is unclear whether perceived social support also might influence adaptive personality development. This study tested this claim with respect to conscientiousness, which has clear relevance for positive aging given its known influences on health and health behavior (Roberts, Walton, & Bogg, 2005). Specifically, we sought to address two primary questions in an older adult sample. First, are older adults capable of changes on perceived social support and conscientiousness in a relatively short time frame? Second, does perceived social support predict change in conscientiousness?

Although personality trait stability rather than change may be the norm in adulthood (Roberts, Walton, & Viechtbauer, 2006), interindividual differences in trait change have been demonstrated even in older adulthood (Möttus, Johnson, & Deary, 2012; Mroczek & Spiro, 2003; Small, Hertzog, Hultsch, & Dixon, 2003). Research suggests that these changes may result from our social engagements. How we adopt and respond to social roles and relationships can influence our personality profiles (Asendorpf & Wilpers,

1998; Lehnart, Neyer, & Eccles, 2010; Roberts, Wood, & Smith, 2005). Namely, socially engaged individuals tend to increase on traits that allow for success in these engagements, such as conscientiousness (Lodi-Smith & Roberts, 2012).

When considering the lower order facets that comprise conscientiousness, it becomes evident why this trait has been linked positively to social role investment (Lodi-Smith & Roberts, 2007) and perceived social support (see Swickert, 2009 for a review). Conscientious individuals tend to be more orderly (i.e., remember appointments), industrious (persist at tasks), traditional (follow rules of decorum), responsible (keep their promises), and have better self-control (are unlikely to cancel things at the last minute; Jackson et al., 2010). Thus, becoming more conscientious may prove one vehicle by which to maintain social support and relationships.

Accordingly, perceiving social support might encourage people to change their personalities to allow them to hold onto social contacts. This pathway may prove particularly relevant during older adulthood, given that older adults' social goals shift toward maintaining current ties rather than making new contacts (Lang, Staudinger, & Carstensen, 1998). This study tested whether perceived

social support might predict conscientiousness change in older adulthood, both at the domain and facet level of the trait. In older adulthood, individuals should be motivated to change in ways that help them hold onto their current social ties, suggesting that perceiving social support is likely the antecedent rather than the outcome. However, we investigated both potential pathways and whether changes in conscientiousness and social support were correlated.

## METHODS

### Participants

One hundred and forty-three older adults (76% female) participated as part of recruiting community participants to take part in a cognitive intervention (Jackson, Hill, Payne, Roberts, & Stine-Morrow, 2012; Payne, Jackson, Hill, Gao, Stine-Morrow, & Roberts, 2012). For inclusion, participants had to (a) demonstrate functional cognitive ability and (b) have relatively few hours a week dedicated to set activities. The current sample consisted of individuals assigned to the no-contact control condition, who completed at-home questionnaires twice for a period of 7 months on personality and social support inventories. On average, participants were 72.8 years old ( $SD = 7.5$ , range: 60–91) and had completed 15.5 years of education ( $SD = 2.6$ ). On a measure of instrumental activities of daily living (IADLs; Lawton & Brody, 1969), 78% of participants received a perfect score of 8 (mean = 7.56 points, range: 1–8), suggesting that most were capable of handling their daily activities. Nineteen participants failed to complete the second assessment, and these individuals did not differ on total social support or any of the conscientiousness scales from the nondropouts at initial assessment.

### Measures

**Conscientiousness.**—Conscientiousness was assessed using five subscales from the Chernyshenko Conscientiousness Scales (CCS; Chernyshenko, 2002; Hill & Roberts, 2011): industriousness, order, traditionalism, self-control, and responsibility (10 items each). Participants responded whether each item was an accurate self-descriptor on a scale from 1 (*disagree strongly*) to 5 (*agree strongly*). All facet measures evidenced  $\alpha$  values greater than 0.6 at both time points, with the exception of responsibility at T1 ( $\alpha = 0.53$ ), which may have been attenuated due to the fact that our sample was near the scale ceiling for this measure (see Supplementary Table 1 for further measurement information).

**Perceived Social Support.**—Perceived social support was assessed using the Interpersonal Support Evaluation List (Cohen & Hoberman, 1983; Cohen, Mermelstein, Kamarck, & Hoberman, 1985). Participants responded to

40 items on a 4-point scale from *definitely true* to *definitely false*. This scale includes four 10-item subscales designed to assess tangible social support, belonging, social self-esteem, and social support appraisal. These subscales demonstrated good alpha reliabilities at both time points (all  $\alpha$  values  $> 0.75$ ).

### Plan of Analysis

First, we fit latent change models separately for social support, conscientiousness, and its facets to examine patterns of mean-level change and whether interindividual variability existed for patterns of change (Hertzog & Nesselroade, 2003; McArdle, 2009; McArdle & Nesselroade, 1994). Significant individual differences in change trajectories must exist in order to test predictors of change. For the overall trait models, we employed the 10-item subscales as indicators of conscientiousness (five indicators) and social support (four indicators) at each time point. When analyzing the conscientiousness facets, we created three parcels from the items for each facet scale (three or four items per parcel), using the item-to-construct technique (Little, Cunningham, Shahar, & Widaman, 2002). At each wave, these indicators load onto latent mean constructs, which then load onto latent level and change constructs for conscientiousness and social support. Indicator loadings were fixed across time for each construct, as were indicator residual variances. Loadings onto the level parameters were set to center its mean at T1. When examining mean-level change, we also fixed indicator intercepts to be equal across waves, though this constraint was relaxed afterward.

Second, we examined whether longitudinal developments in social support and conscientiousness are related by fitting bivariate latent change models, which estimate the conscientiousness and social support models simultaneously (see Supplementary Figure 1). Conscientiousness level was allowed to correlate with social support level, as were the change parameters for the variables. Both level constructs predicted change in the opposite variable. In these models, we controlled for age, gender, and IADL scores (as a proxy for physical health) on both level and change parameters. Models were fit using AMOS v19, employing full information maximum likelihood estimation for missing data.

## RESULTS

Table 1 presents the results of the single variable latent change models. No significant mean-level changes were evidenced for any variable. However, significant interindividual variability in change was found for social support, overall conscientiousness, order, self-control, and industriousness, supporting the idea that personality trait change is possible in a 7 month time span. Therefore, we proceeded to examine the longitudinal relations for these constructs.

Table 1. Means and Variances for the Level and Change Parameters, Along With Correlations Between Level and Change and Model Fits for the Single Latent Change Models

Parameter	<i>M</i> ( <i>SE</i> )	Variance ( <i>SE</i> )	<i>r</i> LC	$\chi^2$ ( <i>df</i> )	CFI	RMSEA
Conscientiousness level	—	0.23* (0.05)	-0.16	91.14* (42)	0.93	0.09
Conscientiousness change	0.02 (0.03)	0.09* (0.02)				
Social support level	—	0.18* (0.04)	-0.21	48.03* (25)	0.97	0.08
Social support change	0.03 (0.03)	0.05* (0.01)				
Order level	—	0.68* (0.11)	-0.24	11.11 (12)	1.00	0.00
Order change	0.07 (0.04)	0.08* (0.03)				
Self-control level	—	0.30* (0.06)	-0.40*	15.55 (12)	0.99	0.05
Self-control change	0.00 (0.04)	0.13* (0.04)				
Responsibility level	—	0.08* (0.03)	0.02	13.85 (12)	0.99	0.03
Responsibility change	-0.04 (0.03)	0.04 (0.02)				
Industriousness level	—	0.25* (0.04)	-0.18	15.93 (12)	0.99	0.05
Industriousness change	-0.03 (0.04)	0.08* (0.02)				
Traditionalism level	—	0.36* (0.08)	-0.33	9.89 (12)	1.00	0.00
Traditionalism change	0.07 (0.04)	0.05 (0.04)				

Notes. CFI = comparative fit index; *M* = mean; RMSEA = root mean square error of approximation; *SE* = standard error.

\*Indicates  $p < .05$ . All latent levels estimated with means of 0, to scale the change factors. CFI values of 1.00 should be interpreted as between 0.995 and 1; RMSEA values of 0.00 should be interpreted as less than 0.005.

Table 2. Results of Dual Latent Change Models Presented Separately By Conscientiousness Measure, Controlling for Age, Gender, and Instrumental Activities of Daily Living (IADLs) on All Level and Change Parameters

Conscientiousness measure	Initial <i>r</i>	Social support →		Correlated change	$\chi^2$ ( <i>df</i> )	CFI	RMSEA
		Conscientiousness → Social support change	Conscientiousness change				
Total	0.29*	0.08	0.25*	0.23	328.93* (183)	0.91	0.08
Order	0.01	0.12	0.29*	0.33*	160.16* (109)	0.96	0.06
Industriousness	0.28*	-0.08	0.18	0.05	168.38* (109)	0.95	0.06
Self-Control	0.05	0.17	0.22*	0.16	157.71* (109)	0.96	0.06

Notes. CFI = comparative fit index; *M* = mean; RMSEA = root mean square error of approximation; *SE* = standard error.

\*Indicates one-tailed  $p < .05$ .

All bivariate latent change models fit moderately well (comparative fit index [CFI] > 0.9; root mean square error of approximation [RMSEA] < 0.09; full results provided in Table 2). At the domain level, conscientious older adults were more likely to report having social support in place at T1 ( $r = .29$ ,  $p < .05$ ). Moreover, participants higher on initial perceived social support were more likely to gain on conscientiousness over time ( $\beta = 0.25$ ,  $p < .05$ ). However, initially conscientious older adults were not prone to changes in social support ( $\beta = 0.08$ ,  $p > .05$ ), and the correlated change effect failed to reach significance ( $r = .23$ ,  $p > .05$ ).

Given that conscientiousness and social support relationships should be positive rather than negative, and the empirical support for this claim at domain level, we examined all facet effects for industriousness, order, and self-control using one-tailed alphas. Only industriousness demonstrated a significant initial correlation with social support ( $r = .28$ ,  $p < .05$ ). However, individuals higher initially on perceived support were more likely to gain on order and self-control ( $\beta = 0.29$  and  $0.22$ , respectively, both  $p$  values < .05). Though nonsignificant, the effect was similar for industriousness as well ( $\beta = 0.18$ ,  $p > .05$ ). In addition, changes in order were positively correlated with those in social support

( $r = .33$ ,  $p < .05$ ). However, initial conscientiousness never significantly predicted social support change ( $\beta$  values ranged from -0.08 to 0.17,  $p$  values > .05). The four models explained at least 10% of the variance in conscientiousness change: industriousness, 10.6%; total conscientiousness, 15.2%; order, 16.0%; and self-control, 16.0%.

## DISCUSSION

This study tested whether perceived social support during older adulthood promotes conscientiousness. Indeed, older adults higher on social support were more likely to increase on the trait during the 7-month span of the study, effects that were largely consistent across the three facets that demonstrated variability in change. However, no evidence was found for the possibility that initial conscientiousness predicted social support change. These results add to the literature demonstrating the benefits of social support (Cohen, 2004; Seeman et al., 2001), by suggesting that it also may engender adaptive personality development in older adulthood.

Underlying this primary finding are two results worthy of additional note. First, our study provides further evidence for individual differences in change for conscientiousness

(Möttus et al., 2012) and social support (Shaw, Krause, Liang, & Bennett, 2007; van Tilburg, 1998) in older adulthood. Second, this study is among the first to examine the facets of conscientiousness over time, regardless of the developmental period. Our results suggest that older adults are capable of changes in order, industriousness, and self-control within 7 months but not in responsibility and traditionalism. Thus, our study provides longitudinal confirmation that all conscientiousness facets might not change in tandem (Jackson et al., 2009).

Though previous work has suggested that traits predict changes on social variables but not the reverse (Asendorpf & van Aken, 2003), our work provides some of the first evidence that social support levels might predict changes in personality. This difference may result from our choice of an older adult sample, as most previous work has examined adolescents or emerging adults (Asendorpf & van Aken, 2003; Sturaro, Denissen, van Aken, & Asendorpf, 2008), in some cases including their parents (Branje, van Lieshout, & van Aken, 2004). Social support not only *means* something different for older adults, but it also may mean *more* for older adults, particularly with respect to intimate ties. Accordingly, if being conscientious is one method for maintaining these ties, perceiving social support should encourage older adults toward increases on this trait. However, future research is needed to test these claim formally across age groups.

Some limitations are worth noting as additional directions for future research. First, future studies should collect more than two waves of data, to more accurately chart the longitudinal changes in conscientiousness and social support. Moreover, it would be valuable to examine these effects beyond 7 months to test the lasting nature of these changes, as our choice of time frame was admittedly due more to the intervention portion of the study. Second, our findings rely on self-reports, and thus it would be valuable to include observer reports in future efforts. As one study found that observers actually report larger changes on conscientiousness for older adults (Jackson et al., 2009), our study may underestimate the amount of trait change evident during older adulthood. Third, although we found significant effects for the predicted parameters, it is important to replicate this work in a larger, more representative sample. Finally, the scale reliabilities for responsibility were less than ideal, possibly due to limited variance in the current sample, again pointing to the need to acquire a larger sample.

In conclusion, this study furthers our knowledge of social support and personality development during older adulthood. Specifically, perceiving greater support may lead to adaptive personality changes, which may prove beneficial for maintaining social ties. Moreover, these findings emphasize the importance of taking a life-span developmental approach for studying person-context interactions, allowing for older adults to contour and shape their development.

#### SUPPLEMENTARY MATERIAL

Supplementary material can be found at: <http://psychogerontology.oxfordjournals.org/>

#### FUNDING

This research was supported by the following grants from the National Institute of Aging: R01 AG029475 and R01 AG021178.

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