Getting to Know Me: Social Role Experiences and Age Differences in Self-Concept Clarity During Adulthood

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ABSTRACT The current research had 2 aims: (1) to determine the cross-sectional age differences in self-concept clarity during adulthood and (2) to examine the importance of social role experiences for age differences in self-concept clarity. These aims were addressed in 2 large samples of adults ranging in age from 18 to 94 years. In both studies, self-concept clarity had a curvilinear relation to age such that self-concept clarity was positively related to age from young adulthood through middle age and negatively related to age in older adulthood. This relationship was moderated by annual income and community investment. In addition, annual income and health-related social role limitations mediated age differences in self-concept clarity. Findings are discussed in terms of modern theories of identity development.

> "Identity formation neither begins nor ends with adolescence: it is a lifelong development."
>
> (Erikson, 1959, p. 122)

As Erikson's quote suggests, identity is a continually evolving aspect of adult personality. Throughout adulthood, individuals edit the contents of their identity structure in response to a variety of life experiences. For example, continued identity-defining experiences are thought to be critical for the growth of identity certainty over time (Roberts & Caspi, 2003). To date, however, evidence as to the

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developmental trends of identity certainty across adulthood is conflicting. The current research addresses this issue by examining how self-concept clarity, "the extent to which the contents of an individual's self-concept . . . are clearly and confidently defined, internally consistent, and temporally stable" (Campbell et al., 1996, p. 141), differs with age. Further, the present study examines the relationship of self-concept clarity to age within the context of social role experiences. Specifically, the current research asks how identity-defining social roles, socioeconomic status variables, and health-related impositions on social functioning impact self-concept clarity across adulthood.

Self-Concept Clarity in Young Adulthood and Midlife

The empirical findings to date lead to the unequivocal hypothesis that self-concept clarity will have a linear relationship to age from young adulthood through midlife. People moving through the later stages of young adulthood (age 27 to 36) show a strong tendency to shift from an insecure or ill-defined identity status in a variety of life domains to a more secure and achieved identity status (Pulkkinen & Kokko, 2000). Over a period of 13 years, middle-aged adults increase in sense of coherence (Hakanen, Feldt, & Leskinen, 2006). In a series of studies focusing on the lives of middle-aged women, college-educated women consistently reported greater identity integration from age 30 to 40 and again from age 40 to 50 (Stewart & Ostrove, 1998; Stewart, Ostrove, & Helson, 2001).

These empirical findings are in keeping with theories of identity development. According to identity theory, young adulthood is the time when identity begins to consolidate. The typical period of identity exploration, characterized as emerging adulthood (Arnett, 2000), stretches from a relatively short period in the teenage years to include most of the 20s. The transition out of emerging adulthood occurs when an individual invests in a variety of adult roles, such as getting married and becoming self-reliant through establishing oneself in a successful job (Arnett, 2000). Since Mead (1934), the self has been described as "aris[ing] in the process of social experience and activity" (p. 135) and as being emergent once an individual takes responsibility for his or her situation. For example, in early theories of identity development, commitments to adult social roles were seen as key mechanisms of identity consolidation that lead to confidence

about the structure of identity (Erikson, 1968; Marcia, 1983). Similarly, modern theories suggest that, as an individual has identity-defining experiences within social roles, confidence in identity will continue to develop (Roberts & Caspi, 2003). Indeed, the social investment hypothesis (Roberts, Wood, & Smith, 2005) is based on the principle that investing in age-normative social roles is one of the driving mechanisms of personality development in young adulthood and that investment in these roles helps shape long-term adult identity. Given that a central idea underlying these theories of identity development is that age drives investment in normative roles, which in turn fosters a more robust identity, we anticipate that the relationship between age and self-concept clarity will be explained in part by investments in adult social roles such as work, relationships, and community involvement.

Self-Concept Clarity in Older Adulthood

In contrast to young adulthood and midlife, the relationship between self-concept clarity and age during older adulthood remains an open question. Evidence for the relationship of self-concept clarity and age in older adults is not as clear-cut as it is for young adults and middle-aged adults. When examining the self-reports of three independent cohorts of women, women in their 60s were more likely than younger women to endorse items assessing identity certainty, such as having "a sense of being my own person" and "feeling secure and committed" (Zucker, Ostrove, & Stewart, 2002). People older than age 85 reported feeling a relative continuity of self over a 30-month period (Troll & Skaff, 1997). In people age 18–94, variability in self-descriptions over a period of 7 days declined with age, suggesting that identity becomes more cemented across adulthood (Charles & Pasupathi, 2003). However, in a sample of adults age 20–88, stability of self-representations across a variety of domains over a 4-week period differed by age, with older adults being consistently less stable in their self-representations than middle-aged or younger adult participants (Diehl, Jacobs, & Hastings, 2006).

From a theoretical perspective, it is during the years of older adulthood, as normative life changes present challenges to existing identity from a number of sources, that decreases in self-concept clarity may occur (e.g., Whitbourne & Collings, 1998). For example, age-linked changes in social role investments corresponding to

retirement and widowing can cause significant shifts in identity-defining commitments that could trigger decreases in identity certainty.

However, people are resilient in the face of change. Even if older adults must disengage from specific social roles attained during young adulthood and maintained during midlife, the period of disengagement may be experienced as a freeing time in which identity can be more fully realized (Havinghurst, Neugarten, & Tobin, 1968). For example, retirement can provide a means for the pursuit of lifelong dreams such as traveling, starting new hobbies, volunteering, and attaining educational goals. Maintaining an active, engaged lifestyle in older adulthood where investment choices are driven by interests and values likely helps maintain identity certainty in older adulthood. Therefore, the opposing hypothesis may also be suggested, such that with age comes lowered investments in social roles but that these investments, being themselves normative and allowing for the pursuit of other goals, foster higher levels of self-concept clarity in older adulthood. Not every older adult, however, has the means to pursue the "ideal" retirement. The present research addresses two areas of social functioning that may adversely affect self-concept clarity in older adulthood: (a) socioeconomic status and (b) health-related limitations in social functioning.

Individuals who experience limitations in their daily activities due to changing socioeconomic factors or declining health are likely frustrated in attaining late-life goals and fulfilling late-life desires critical to the maintenance of a clear identity in older adulthood. These limitations may prevent older adults from developing clear investments during older adulthood on which they can ground their identity. To the extent that these factors are more pronounced with greater age, we expect that socioeconomic variables and health-related role limitations will account, in part, for declines in the relationship between age and self-concept clarity in older adulthood.

Understanding the age differences and underlying mechanisms of these age differences is particularly important within an older adult sample. As the aging population continues to increase in number, understanding the nuances of the psychological experience of the aging individual is critical to fostering a healthy lifestyle for older adults. Given that self-concept clarity is related to a number of important health-linked variables from psychological health (Bigler, Neimeyer, & Brown, 2001; Campbell et al., 1996) to the personality traits of conscientiousness and emotional stability (Campbell et al.,

1996), understanding self-concept clarity in older adulthood can create a better understanding of health in older adulthood.

The Present Research

The current research adds to the existing literature regarding age differences in self-concept clarity during adulthood in two ways. First, self-concept clarity is examined in two large, diverse samples of individuals. In the first study, patterns of self-concept clarity are examined in an age-stratified (young adult, middle age, older adult) sample of volunteer participants. The second study replicates and extends Study 1 by focusing on a large age-stratified, randomly selected sample representative of Illinois residents. Such sampling techniques provide generalizability, allowing for robust evidence regarding the patterns of age differences in self-concept clarity. Second, both samples examine participants ranging in age from late adolescence to late old age. To date, no known research has examined self-concept clarity in older adults. By including a large number of older adult participants, we can address conflicting evidence regarding age differences in self-concept clarity during older adulthood.

The current study also examines self-concept clarity in conjunction with social experiences, thus allowing us to address how social experiences may both moderate and mediate age differences in self-concept clarity. Given the potential complexity of the relation between social role experiences and self-concept clarity, we set no strong hypotheses about the nature of the associations—whether, for example, higher socioeconomic status mediates or moderates age differences. Our primary goal was to determine whether social experiences explained the association between age and self-concept clarity. This question reflects the idea that chronological age is not the real cause of changes in self-concept clarity so much as a facsimile of the experiences that come with age and different life stages. Given the fact that people enact social roles at varying times across the life course, we envision the simplest effect for social experiences to be a mediating effect. Thus, people who enact certain roles or have certain role experiences earlier or later in the life course will be higher or lower in self-concept clarity because of those experiences. Alternatively, social role experiences may moderate the relation between age and self-concept clarity, such that people without certain role

experiences will experience no change, whereas those who do have specific role experiences do show change.

STUDY 1

Method

Participants

In Study 1, 170 female and 109 male ($N = 279$) members of the local community participated as part of the Health and Aging Study of Central Illinois (HASCI). Participant age ranged from 19 to 94 years ($M = 51.06$, $SD = 16.56$). One participant did not provide his age and was excluded from the present analyses. Participants were divided into three age groups: young adulthood from 19 to 39 ($N = 69$, mean age = 29.80, $SD = 6.02$), middle age from 40 to 59 ($N = 127$, mean age = 49.55, $SD = 5.44$), and older adulthood from 60 to 94 ($N = 82$, mean age = 71.29, $SD = 7.66$).

Measures

Self-concept clarity. The Self-Concept Clarity Scale (Campbell et al., 1996) assessed the extent to which a participant has a clear and consistent understanding of self and identity. Participants rated themselves from 1 to 5 on 12 items, such as "In general, I have a clear sense of who I am and what I am" ($\alpha = .89$, $M = 3.65$, $SD = .89$). Three participants did not respond to the Self-Concept Clarity Scale. Missing data were statistically imputed at the item level as the mean for the missing item across the sample.

Work investment. Work investment was measured with 10 items, such as "I live, eat and breathe my job" adapted from the Family Involvement Index (Misra, Ghosh, & Kanungo, 1990; $\alpha = .78$). Participants rated each item on a 1 to 5 scale. Participants who were not employed were assigned a score of 1 for the work investment measure to indicate that they were not currently committed to a job. Work investment had a mean of 2.06 ($SD = .91$).

Marital investment. Marital investment was measured with 15 items such as "I want to grow old with my spouse" (Adams & Jones, 1997; $\alpha = .86$). Participants rated each item on a 1 to 5 scale. Participants who were not married were assigned a score of 1 for the marital investment measure to indicate that they were not currently married. Marital investment had a mean of 2.10 ($SD = 1.13$).

Socioeconomic status. Socioeconomic status was measured by three indicators. *Education level* was rated on a 1 (*some elementary school*) to 9 (*doctoral level*) scale ($M = 6.33$, $SD = 1.61$). *Job prestige* ($M = 43.51$, $SD = 13.48$) for the 195 participants who provided sufficient information was determined by two independent coders per Hauser and Warren (1997), with an inter-rater reliability of .78. Each rater examined the job title the participant attributed to their job and coded this job title on a prestige index provided in Hauser and Warren (1997). Substantial discrepancies were discussed with the primary author, and a consensus rating was reached by group decision. Finally, participants provided their *annual income* ($M = \$30{,}660$; $SD = \$23{,}546$).

Social role limitations. Health-related social role limitations were measured with seven items from the SF-36 (Ware & Sherbourne, 1992)—all six items from the role limitations index (''Limited in the kind of work or other activities performed'') and a single-item index of social functioning (''My health problems interfered with normal social activities''). All items were rated on a 7-point scale ($\alpha = .82$, $M = 2.71$, $SD = 1.18$), with a higher score corresponding to a greater degree of limitation.

Results

Component Structure of Self-Concept Clarity and Equivalence of Scale Functioning Across Age Groups

Component structure. The structure of the Self-Concept Clarity Scale was examined as in Campbell et al. (1996). Adequate reliability ($\alpha = .90$) and one primary component were found in an unrotated principal components analysis (PCA). As in Campbell et al. (1996), a second component with an eigenvalue close to 1 (eig = 1.12) was found. However, as shown in Table 1, results of a parallel analysis (Horn, 1965) suggested that this second component was likely an overestimate due to sampling error. In addition, confirmatory factor analysis (CFA) testing the fit of the single-component structure found in Campbell et al. (1996) showed adequate model fit with a $\chi^2(54) = 168.78$, comparative fit index (CFI) of .92, and root mean square error of approximation (RMSEA) of .09.[1] Contrary to the findings of Campbell et al. (1996), item 6 (''I seldom experience

1. Thanks to the anonymous reviewer who suggested using parallel analyses. A thorough tutorial with scripts for conducting parallel analyses can be found in Hayton, Allen, and Scarpello (2004).

Table 1
Actual and Random Eigenvalues Generated in Parallel Analysis of Component Structure for Self-Concept Clarity Scale in Study 1

Component	Actual Eigenvalue	Average Eigenvalue	95th Percentile Eigenvalue
1	5.74	1.40	1.50
2	1.12	1.30	1.38
3	.89	1.23	1.29
4	.70	1.16	1.21
5	.68	1.10	1.15
6	.58	1.05	1.09
7	.54	1.00	1.04
8	.50	.95	.99
9	.41	.90	.94
10	.33	.85	.89
11	.29	.80	.84
12	.23	.74	.78

Note. $N = 278$. Permutations = 5,000. Actual eigenvalues less than the average or 95th percentile eigenvalues generated at random are considered to be due to sampling error.

conflict between the different aspects of my personality'') did not fit well with the rest of the scale. As shown in Table 2, item 6 correlated poorly with the rest of the scale and did not load strongly on the first unrotated principal component. However, results did not differ when using the scale computed with or without this item and, therefore, the results reported below represent the findings when item 6 was included in the self-concept clarity measure.

Scale functioning. In order to ensure that differences in self-concept clarity across age groups were due to actual variations in self-concept clarity between the age groups and not to differential scale functioning, we examined the equivalence of scale functioning across the three age groups using the multiple groups analysis macro in AMOS.

First, the hypothesis that the same single-component structure exists for young, middle-aged, and older participants on a general level without constraints on loadings for each item was examined with fit statistics across the groups of χ^2 (162) = 338.37, CFI of .88, and RMSEA of .06. It must be noted that the CFI for this model was

Table 2
Structural Coefficients and Descriptive Statistics for Items in the Self-Concept Clarity Scale in Study 1

Item	*PC1*	r_{it}	*M*	*SD*
1. My beliefs about myself often conflict with one another.*	.76	.73	3.45	1.38
2. On one day I might have one opinion of myself and on another day I might have a different opinion.*	.79	.74	3.14	1.46
3. I spend a lot of time wondering about what kind of person I really am.*	.78	.73	3.60	1.37
4. Sometimes I feel that I am not really the person that I appear to be.*	.77	.72	3.52	1.40
5. When I think about the kind of person I have been in the past, I'm not sure what I was really like.*	.70	.66	3.73	1.30
6. I seldom experience conflict between the different aspects of my personality.	.28	.25	3.30	1.35
7. Sometimes I think I know other people better than I know myself.*	.57	.54	3.65	1.26
8. My beliefs about myself seem to change very frequently.*	.76	.72	3.97	1.21
9. If I were asked to describe my personality, my description might end up being different from one day to another day.*	.76	.71	3.82	1.33
10. Even if I wanted to, I don't think I could tell someone what I'm really like.*	.51	.48	3.84	1.25
11. In general, I have a clear sense of who I am and what I am.	.44	.45	4.14	1.11
12. It is often hard for me to make up my mind about things because I don't really know what I want.*	.57	.55	3.65	1.32

Note. $N = 278$. *PC1* = loading on first unrotated principal component; r_{it} = corrected item total correlation. Items were rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale.
*Reversed item.

lower than desired due to a low CFI among older adults (CFI = .83) as compared to young (CFI = .91) and middle-aged (CFI = .90) adults. However, parallel analysis within each age group continued to suggest a single component solution for self-concept clarity across age groups. Thus, for the purposes of the present study, we will assume that a single component structure exists across age groups.

Next, we examined the more constrained model, testing the hypothesis that not only did a similar general component structure exist across the groups, but the specific loadings for each item were also equivalent across age groups. The fit statistics for the constrained model were χ^2 (184) = 368.01, CFI of .88, and RMSEA of .06. The chi-square difference between the full and constrained models was 29.64 and nonsignificant. Therefore, equivalent factor loadings can be assumed across age groups as well as equivalent factor structures. Thus, any differences in self-concept clarity across adulthood can be attributed to meaningful differences in variable functioning within the groups and not to differential scale functioning within a specific age group.

Age Differences in Self-Concept Clarity

The first aim of the current research was to establish the nature of the relationship between self-concept clarity and age. Table 3 shows the means and standard deviation of self-concept clarity for each decade of adulthood. To formally examine differences in self-concept clarity across adulthood, the linear and curvilinear relations between age and self-concept clarity were tested within a regression framework while controlling for both gender and ethnicity. As shown in Table 4, age had a curvilinear relationship with self-concept clarity. Until age

Table 3
Descriptive Statistics of Self-Concept Clarity by Decade in Study 1 and Study 2

	Age (Years)						
Sample	Under 30	30–39	40–49	50–59	60–69	70–79	Over 79
Study 1							
M	3.22	3.48	3.60	3.68	4.20	3.64	3.84
SD	.91	1.05	.85	.90	.70	.75	.72
N	35	34	60	67	36	35	11
Study 2							
M	3.35	3.52	3.64	3.67	3.67	3.45	3.31
SD	.85	.86	.79	.86	.76	.65	.80
N	112	110	128	104	67	54	38

Note. Study 1: $N = 278$. Study 2: $N = 613$.

Table 4
Interrelationships of Study 1 Variables

	Age	Age^2	1	2	3	4	5	6
1. Self-concept clarity	.23*	−.14*						
2. Work investment	−.18*	−.11	−.10					
3. Relationship investment	.11	−.02	.15	−.10				
4. Education	−.08	−.09	.13	.24*	.01			
5. Job prestige	.09	−.02	.02	.15	.16*	.49*		
6. Annual income	.10	−.17*	.07	.06	.14	.25*	.24*	
7. Role limitations	.13*	.12*	−.21*	.18*	−.10	−.02	−.11	−.07

Note. $N = 174$–278. Age and age^2 column values are standardized beta weights attained from regressing age and age^2 on the target variable. All other values are correlation coefficients. All effects are controlling for gender and ethnicity.
*$p < .05$.

60, there was a positive linear relationship between self-concept clarity and age ($r = .20$, $p < .05$). After age 60, this relationship was negative ($r = -.26$, $p < .05$).

Social Role Experiences and Age Differences in Self-Concept Clarity

To determine whether social role experiences affected the relationship between age and self-concept clarity, we first tested whether social role experiences moderated the relationship between age and self-concept clarity. Using a multiple regression framework, we found that, of the social role experience variables, only earnings moderated the linear relationship between age and self-concept clarity ($\beta = -.16$, $p < .05$). As shown in Figure 1, individuals with higher incomes had relatively equivalent levels of self-concept clarity across age. In contrast, individuals with low income during young adulthood showed quite low levels of self-concept clarity, whereas individuals with low income during older adulthood showed high levels of self-concept clarity. No social role variables moderated the curvilinear relationship between age and self-concept clarity.

Next, we tested whether social role experiences mediated the relationship between self-concept clarity and age. The first step in conducting the mediation analyses was to determine which social role variables met criteria to allow them to be considered as potential

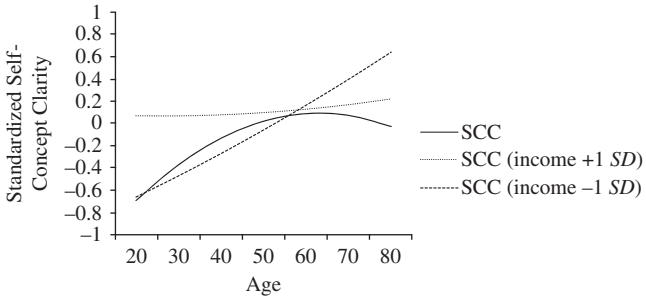

Figure 1
Moderation of the relationship between age and self-concept clarity by annual income in Study 1.

mediating variables. Specifically, to be considered as a potential mediating variable, social role variables had to correlate with (a) self-concept clarity and (b) either age or age-squared (Baron & Kenny, 1986). As shown in Table 4, only social role limitations could be considered as a potential mediator, as marital investment, education, and prestige were nonsignificantly related to self-concept clarity and the age variables. Additionally, while work investment was negatively correlated with age and earnings had a significant curvilinear relationship to age, neither were significantly correlated with self-concept clarity and, therefore, could not be considered as potential mediating variables of the relationship between self-concept clarity and age. Therefore, in Study 1, we tested two mediational pathways—whether health-related social role limitations mediated the (a) linear and (b) curvilinear relationships between age and self-concept clarity.

Once we identified health-related social role limitations as a potential mediator of the relationship between age and self-concept clarity, the next step in examining whether they mediated this relationship was to test whether controlling for health-related social role limitations significantly decreased the relationship between age and self-concept clarity. We tested the significance of the mediating effect per Sobel (1982), a conservative and recommended (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002) test that compares the direct and indirect effects and calculates the probability that the two effects are the same. A significant Sobel test is present when the Sobel statistic (Z) is greater than ± 1.96 and indicates that the third variable is a significant mediator of the direct effect.

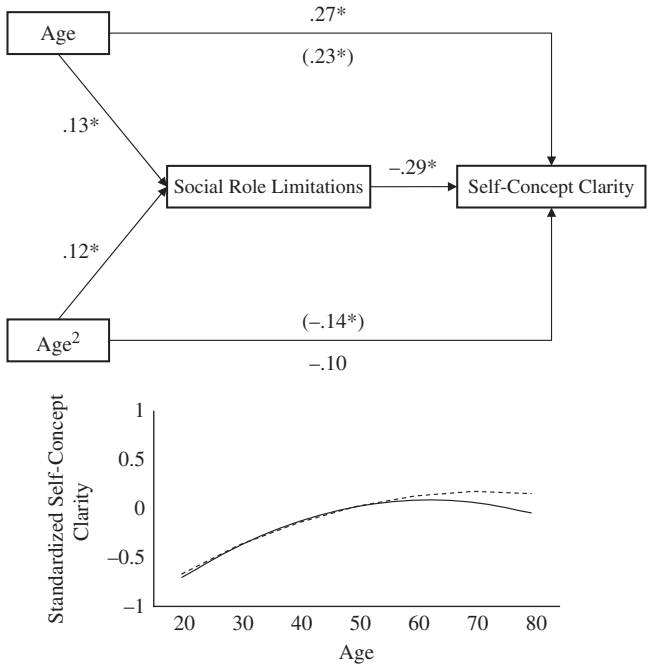

Figure 2
Mediating effect of role limitations on the relationship between age and self-concept clarity in Study 1. The top half of the figure depicts that the age and self-concept clarity relationship is mediated by role limitations in Study 1. Values in parentheses indicate the relationship between age and self-concept clarity before controlling for role limitations. In the bottom half of the figure, the solid line shows the relationship of self-concept clarity to age, and the dashed line represents this relationship when controlling for role limitations in Study 1. *$p < .05$.

As hypothesized, health-related social role limitations partially mediated the linear relationship between age and self-concept clarity ($Z = -2.00$, $p < .05$). Social role limitations did not, however, significantly mediate the curvilinear relationship between age and self-concept clarity ($Z = -1.81$, $p > .05$). Figure 2 illustrates the indirect effect role limitations had on the relationship between age and self-concept clarity. The top half of Figure 2 depicts this mediation showing a traditional path model. The bottom half of Figure 2 interprets this mediation effect graphically. The solid line in the graph

represents the trajectory of self-concept clarity without controlling for other variables. The dotted line shows this trajectory while controlling for social role limitations. This relationship holds when controlling for earnings and the interaction of earnings and age in the model. Clearly, in the absence of social role limitations, self-concept clarity shows a simple linear association with age. It appears that the onset of social role limitations in old age is one reason behind the curvilinear relation between age and self-concept clarity, as it appears to promote a decrease in self-concept clarity at this time in the life course.

STUDY 2

Study 1 determined that self-concept clarity was positively related to age through young adulthood and middle age and negatively related to age in older adulthood. Additionally, Study 1 determined that this relationship was moderated by earnings and was partially due to health-related social role limitations in older adulthood. Study 2 extends the analyses of Study 1 to a large, randomly selected sample representative of Illinois residents and includes investment in community social roles as an additional index of social role experience.

Method

Participants

In Study 2, 351 female and 266 male ($N = 617$) participants selected at random from around Illinois participated as part of HASCI. Participant age ranged from 19 to 86 years ($M = 47.88$, $SD = 17.89$). Four participants did not supply their age and were therefore excluded from analyses, resulting in a final N of 613. Participants were contacted by interviewers from the University of Illinois, Chicago's Survey Research Lab in their homes and asked to complete the survey on a laptop computer.

The Study 2 sample was collected using a multistage, age-stratified sampling technique. In the first stage, nine Illinois counties were sampled with probabilities proportionate to size (PPS), where the measure of size was the adult population. PPS sampling gives more populous counties a higher probability of selection while still ensuring that all counties have some probability of selection. In the second stage, five census tracts were sampled from each of the sampled counties. In the third stage, four blocks were sampled from the sampled census tracts. Census tracts and blocks also were sampled PPS.

Once the blocks were selected, interviewers listed all households on the sampled blocks and completed interviews with five households. The sample was stratified into three age strata: 19- to 39-year-olds ($N = 222$, mean age = 29.39, $SD = 5.94$), 40- to 59-year-olds ($N = 232$, mean age = 48.78, $SD = 5.67$), and 60- to 86-year-olds ($N = 159$, mean age = 72.40, $SD = 7.51$). In order to ensure an equal number of completed interviews within each stratum, selection procedures at the household level were adjusted to oversample the smallest strata.

Measures

Self-concept clarity. Self-concept clarity was assessed as in Study 1 ($\alpha = .84$, $M = 3.50$, $SD = .75$).

Work investment. Work investment was assessed using an abbreviated seven-item index of the measure used in Study 1. Unemployed participants were assigned a score of 1 on the measure as in Study 1 ($\alpha = .77$, $M = 2.39$, $SD = 1.33$).

Relationship investment. Investment in relationships was assessed by collapsing across measures of nonmarital romantic relationships and marital relationships. No participants completed both measures. Relationship investment was assessed with an abbreviated seven-item measure adapted from the measure used in Study 1. Paralleling Study 1, participants who were not involved in either a nonmarital romantic relationship or a marital relationship were given a score of 1 for relationship investment ($\alpha = .84$, $M = 2.90$, $SD = 1.55$).

Community investment. Community investment was defined as the sum of commitment to religion and commitment to volunteerism ($M = 3.73$, $SD = 1.84$). Both commitment to religion ($\alpha = .94$) and commitment to volunteerism ($\alpha = .90$) were assessed with seven-item measures adapted from the work investment index. As with the other measures of investment, participants who were not involved in community activities were assigned a score of 1 for that measure of investment.

Socioeconomic status. Socioeconomic status was measured with the same three indices used in Study 1: *education* ($M = 5.96$, $SD = 1.67$), *job prestige* ($M = 40.47$, $SD = 13.44$), and *annual income* rated on a 1 (*less than $10,000*) to 11 (*over $70,000*) scale ($M = 6.34$, $SD = 3.28$).

Social role limitations. Health-related social role limitations were measured as in Study 1 ($\alpha = .82$, $M = 2.86$, $SD = 1.24$).

Results

Component Structure of Self-Concept Clarity and Equivalence of Scale Functioning Aacross Age Groups

Component structure. As in Study 1, good reliability ($\alpha = .84$) and one main component were found in an unrotated principal components analysis when examining the Self-Concept Clarity Scale characteristics. Once again, a second component with an eigenvalue close to 1 (eig = 1.09) was found. However, as in Study 1, parallel analysis suggested that this second component was likely an overestimate due to sampling error, and a CFA testing the fit of the single-component structure found in Campbell et al. (1996) showed adequate model fit with a χ^2 (54) = 211.93, CFI of .93, and RMSEA of .07. In Study 2, Item 6 (''I seldom experience conflict between the different aspects of my personality'') had even worse fit with the rest of the scale than it did in Study 1. As shown in Table 5, Item 6 correlated negatively with the rest of the scale and loaded negatively on the first unrotated principal component. Because of the poor fit of this item with the rest of the scale, this item was not included in the self-concept clarity measure used in the analyses presented below.[2]

Scale functioning. A CFA of self-concept clarity examining the equivalence of the component structure and loadings across age groups replicated the findings of Study 1 with more acceptable fit statistics. Specifically, the same component structure exists for all participants on a general level, as there was an equivalence in the factor structure across the age groups with a χ^2 (132) = 310.81, CFI of .92, and RMSEA of .05. Additionally, the test of the constrained model had adequate fit with a χ^2 (152) = 319.71, CFI of .92, and RMSEA of .04. The chi-square difference between the two models was nonsignificant at 8.90. Thus, as in Study 1, we can conclude that the Self-Concept Clarity Scale functions equivalently across age groups and that any differences between the age groups reside in actual differences in self-concept clarity, not in differential scale functioning.

2. Analyses including Item 6 in the composite measure largely paralleled those reported in the text. The one exception to this was that the relationship between self-concept clarity and work investment became nonsignificant when including Item 6. Therefore, work investment was not included in the multiple mediator model conducted when including Item 6. This did not, however, affect the outcomes of the multiple mediator analyses.

Table 5
Structural Coefficients and Descriptive Statistics for Items in the Self-Concept Clarity Scale in Study 2

Item	*PC1*	r_{it}	*M*	*SD*
1. My beliefs about myself often conflict with one another.*	.62	.56	3.43	1.22
2. On one day I might have one opinion of myself and on another day I might have a different opinion.*	.64	.58	3.12	1.33
3. I spend a lot of time wondering about what kind of person I really am.*	.60	.55	3.28	1.29
4. Sometimes I feel that I am not really the person that I appear to be.*	.67	.62	3.53	1.28
5. When I think about the kind of person I have been in the past, I'm not sure what I was really like.*	.56	.52	3.44	1.20
6. I seldom experience conflict between the different aspects of my personality.	− .09	− .09	3.05	1.30
7. Sometimes I think I know other people better than I know myself.*	.50	.44	3.43	1.30
8. My beliefs about myself seem to change very frequently.*	.80	.73	3.86	1.16
9. If I were asked to describe my personality, my description might end up being different from one day to another day.*	.74	.68	3.67	1.24
10. Even if I wanted to, I don't think I could tell someone what I'm really like.*	.52	.48	3.62	1.25
11. In general, I have a clear sense of who I am and what I am.	.50	.45	4.07	.97
12. It is often hard for me to make up my mind about things because I don't really know what I want.*	.69	.63	3.57	1.28

Note. $N = 613$. *PC1* = loading on first unrotated principal component; r_{it} = corrected item total correlation. Items were rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale.
*Reversed item.

Age Differences in Self-Concept Clarity

Table 3 gives the descriptive statistics for self-concept clarity in each decade of adulthood. As shown in Table 6, the relationship between age and self-concept clarity found in Study 1 was replicated in Study 2. As in Study 1, this was represented by a positive linear relationship

between self-concept clarity and age up to age 60 ($r = .14$, $p < .05$) and by a negative linear relationship after age 60 ($r = -.17$, $p < .05$).

Social Role Experiences and Age Differences in Self-Concept Clarity

As in Study 1, we first tested whether social role experiences moderated either the linear or curvilinear effect of age on self-concept clarity. In Study 2, we found no moderators of the linear relation between age and self-concept clarity. However, we did find that community involvement significantly moderated the curvilinear relationship between age and self-concept clarity ($\beta = -.15$, $p < .05$). As shown in Figure 3, individuals with low levels of community involvement did not differ much in their self-concept clarity across age. However, individuals who were highly involved in their religious or volunteer communities had variable self-concept clarity with age, with young and older adults having low levels of self-concept clarity and middle-aged participants having elevated levels of self-concept clarity. No other variables moderated the relationship between age and self-concept clarity. In contrast to the findings of Study 1, there was not a significant interaction between age and earnings in the present sample ($\beta = .05$, $p > .05$).

As in Study 1, we conducted a series of mediational analyses to determine the impact social role experiences have on the relationship between age and self-concept clarity. Seven social role variables met the criteria (Baron & Kenny, 1986) to be considered as potential mediators of the relationship between self-concept clarity and age, as shown in Table 6. For the linear relationship between age and self-concept clarity, work investment, community investment, and role limitations were considered potential mediators. We considered work investment, relationship investment, educational attainment, job prestige, and annual income as possible mediators of the curvilinear relationship between age and self-concept clarity.

Because we had multiple possible mediators, we simultaneously assessed their impact on the direct path between age and self-concept clarity. To do this, we implemented an SPSS macro designed to test multiple mediator models using bootstrap techniques (Preacher & Hayes, 2008).[3] This procedure allowed us to conclude both (a) whether the relationship between age and self-concept clarity was

3. Thanks to an anonymous reviewer who pointed us to this technique.

Table 6
Interrelationships of Study 2 Variables

	Age	Age^2	1	2	3	4	5	6	7
1. Self-concept clarity	.09*	−.15*							
2. Work investment	−.27*	−.24*	−.11*						
3. Relationship investment	−.02	−.14*	.11*	.03					
4. Community investment	.19*	−.04	.14*	.00	.15*				
5. Education	−.02	−.24*	.18*	.02	.11*	.17*			
6. Job prestige	.02	−.14*	.15*	.02	.15*	.03	.57*		
7. Annual income	.06	−.27*	.25*	−.05	.31*	.09	.44*	.43*	
8. Role limitations	.18*	.08	−.25*	.05	−.08	−.04	−.08	−.06	−.09

Note. $N = 613$. Age and age^2 column values are standardized beta weights attained from regressing age and age^2 on the target variable. All other values are correlation coefficients. All effects are controlling for gender and ethnicity.
*$p < .05$.

significantly mediated by all of the variables included in the model and (b) which of the possible mediating variables had a significant mediating effect on the relationship between age and self-concept clarity. A significant effect is present for the multiple mediator analysis when the confidence interval surrounding the point estimate does not include zero.

As shown in Table 7, role limitations significantly mediated the linear relationship between age and self-concept clarity, whereas annual income significantly mediated the curvilinear relationship between age and self-concept clarity. Annual income attenuates the age effects on self-concept clarity such that both young and older adults resemble middle-aged adults, as shown in Figure 4. Finally, as in Study 1 and as shown in Figure 5, in the absence of social role limitations, self-concept clarity has a more pronounced linear relationship with age throughout the life span.

DISCUSSION

The current research had two primary aims: (a) to examine the differences of self-concept clarity across age in adulthood and (b) to

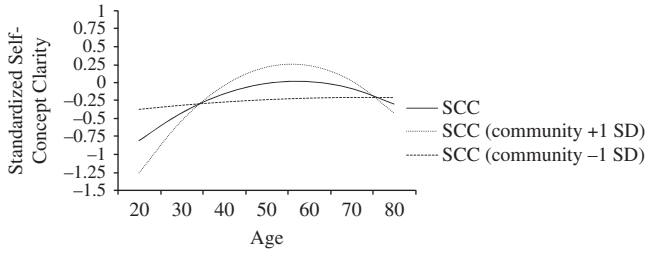

Figure 3
Moderation of the relationship between age and self-concept clarity by community investment in Study 2.

investigate the impact social experiences have on this relationship. In Study 1, these questions were examined in a broad age range of participants. Study 2 extended the findings of Study 1 to an age-stratified, randomly selected sample representative of Illinoisans.

Table 7
Mediation of the Relationship Between Age and Self-Concept Clarity Through Social Role Variables

	Indirect Effect		Bootstrap 95% Confidence Interval	
	Estimate	*SE*	Lower	Upper
Age				
Work investment	– .0003	.0006	– .0016	.0008
Community investment	.0011	.0004	.0004	.0021
Role limitations	– .0027	.0007	**– .0043**	**– .0015**
Total	– .0020	.0010	– .0039	– .0002
Age^2				
Work investment	– .0011	.0080	– .0181	0149
Relationship investment	– .0162	.0166	– .0513	0144
Education	– .0179	.0185	– .0658	0117
Job prestige	– .0019	.0104	– .0265	0171
Annual income	– .0467	.0237	**– .1044**	**– .0096**
Total	– .0838	.0289	– .1544	– .0367

Note. $N = 613$. Confidence intervals that do not include zero indicate a significant effect and are indicated here in bold.

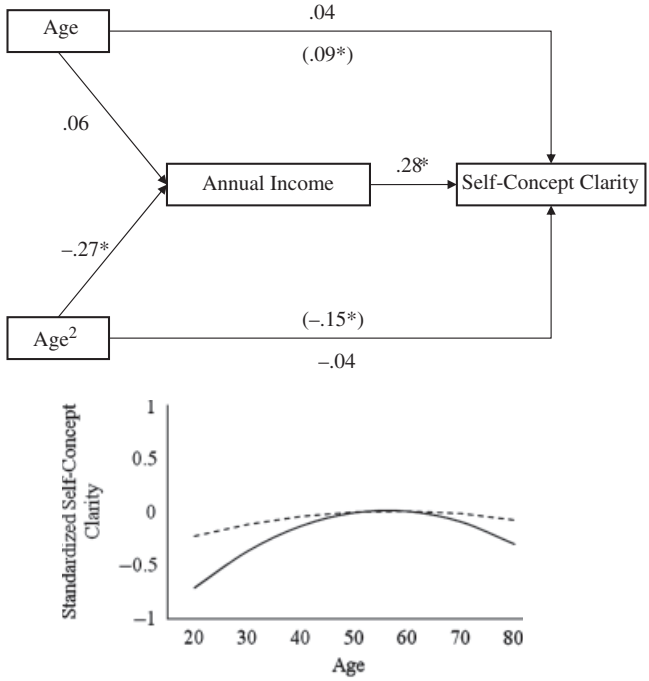

Figure 4
Mediating effect of annual income on the relationship between age and self-concept clarity in Study 2. The top half of the figure depicts that the linear relationship between age and self-concept clarity is mediated by income in Study 2. Values in parentheses indicate the relationship between age and self-concept clarity before controlling for income. In the bottom half of the figure, the solid line shows the relationship of self-concept clarity to age, and the dashed line represents this relationship when controlling for income in Study 2. *$p < .05$.

Component Structure of Self-Concept Clarity and Equivalence of Scale Functioning Across Age Groups

With the exception of one item, the Self-Concept Clarity Scale had a robust structure across age groups and studies with a clean, single factor underlying the scale items across both studies. This factor existed across the age groups with an equivalent structure and equivalent path loadings for all ages. This equivalence across age groups

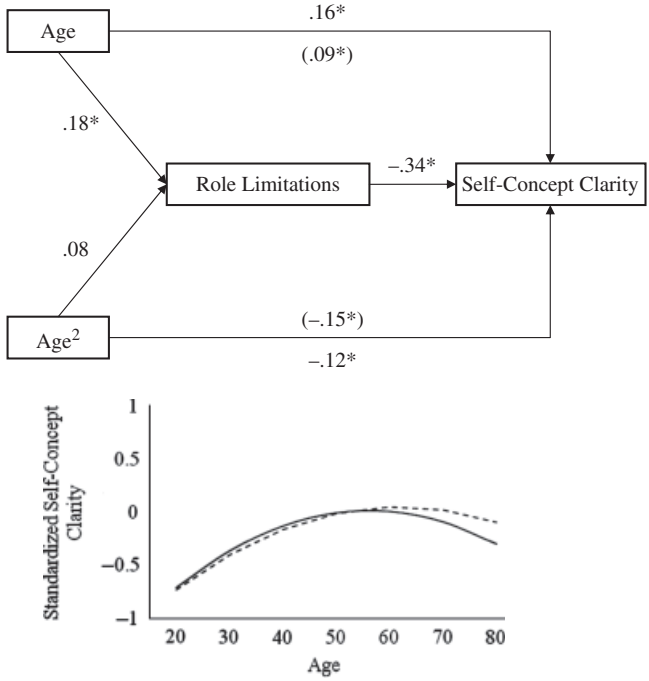

Figure 5

Mediating effect of role limitations on the relationship between age and self-concept clarity in Study 2. The top half of the figure depicts that the curvilinear relationship between age and self-concept clarity is mediated by role limitations in Study 2. Values in parentheses indicate the relationship between age and self-concept clarity before controlling for role limitations. In the bottom half of the figure, the solid line shows the curvilinear relationship of self-concept clarity to age, and the dashed line represents this relationship when controlling for role limitations in Study 2. *$p < .05$.

meant that any mean level differences between age groups or differences in the relationship between self-concept clarity and other variables were due to meaningful differences rather than to drift in the function of the self-concept clarity construct across age groups. We were, however, concerned about the function of Item 6 in our two samples, particularly in the representative sample used in Study 2, and caution other researchers who use the Self-Concept Clarity Scale in the future to check the function of this scale at the item level before proceeding with analyses.

Age Differences in Self-Concept Clarity

The first aim of the current research was to investigate the relation between self-concept clarity and age in order to determine age differences in self-concept clarity. Paralleling findings regarding the stability of self-representations with age (Diehl et al., 2006), self-concept clarity had a curvilinear relationship with age. In both studies, when broken down across the age groups, this curvilinear relationship was due to significantly greater self-concept clarity with age for young adults and middle-aged participants and significantly less self-concept clarity with age for adults over age 60.

The results of these two studies suggest that middle age is the peak of clarity and, as has been argued before, may be the "prime" of life (Mitchell & Helson, 1990). The current findings are paralleled by the curvilinear relationship between attitude certainty and age, in which younger and older adults are less certain of their general attitudes than middle-aged adults (Visser & Krosnick, 1998). When a similar curvilinear pattern with age was observed for self-esteem, it was suggested that this pattern could be due to acquiring a more "modest and balanced view of the self" in old age (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002, p. 431). However, the declines in self-concept clarity in the current research suggest that with the onset of old age, people become less sure about their identity. This lack of confidence in self is manifest as a decrease in attitude certainty, self-esteem, and self-concept clarity in older adults. Despite this somewhat pessimistic conclusion as to the overall path of self-concept clarity with age, the present research suggests that the trajectory of self-concept clarity with age is not immutable and may be contingent, at least in part, on social experiences across the life span.

Self-Concept Clarity and Social Role Experiences

Overall, we found a variety of social role experiences were related to age difference in self-concept clarity. Annual income was an important factor for understanding the relationship between self-concept clarity and age across the life span. Specifically, in Study 1, young adults with low annual income reported very low levels of self-concept clarity compared to young adults with higher incomes. In addition, controlling for annual income in Study 2 made young adults look more like middle-aged adults in their levels of self-concept

clarity. In both cases, low income in young adulthood may have represented the fact that their jobs had yet to coalesce into full-fledged careers and therefore did not contribute to a strong and clear identity. This alludes to the central part that work plays in identity development, an idea that goes back to Erikson (1968) as well as being in keeping with modern theories of identity development, such as the Social Investment Hypothesis (Roberts et al., 2005).

Income was also related to self-concept clarity in older adulthood. In Study 1, income moderated the relationship between age and self-concept clarity with unexpected effect such that older adults with lower income reported high levels of self-concept clarity. It may be that in this population, lowered income provided identity-challenging experiences through which the individual was forced to build a stronger identity structure. This effect was small, however, and not replicated in the representative sample in Study 2. Instead, income mediated the relationship between self-concept clarity and age in Study 2. This may be due to the stabilization of social environment (Demo, 1992) as well as to the freedom high socioeconomic status provides for the comfortable pursuit of leisure activities during retirement. Because of the lack of replication across the two studies, future research into the effect of income on self-concept clarity over the life span is warranted.

Involvement in community roles was an important factor in understanding the relationship between self-concept clarity and age across the life span. Moderator analyses suggested that being highly involved in community roles had a differing impact on self-concept clarity across the life span. While, during midlife, community involvement was related to having a clearly defined sense of self, for young adults and to a somewhat lesser extent in older adults, being highly invested in community roles was associated with lower levels of self-concept clarity. In modern American society, it is somewhat nonnormative for twenty-somethings to be highly committed to either religion or volunteerism. It may be that young adults who are involved in community roles are looking for identity in all the wrong places. Conversely, individuals in middle age have entered the stages of life in which generativity becomes more salient (Helson, Soto, & Cate, 2006; McAdams, 2001). Thus, involvement in community may represent an outlet for individuals to build institutions and help younger generations through their actions, and this work may contribute to a clearer identity. On the other hand, older adults who

have the time to invest in community roles may be negotiating a new identity as they transition out of work and into roles with more community-focused prominence.

In addition to the basic relationship between age and self-concept clarity, the most robust finding to come out of the present research was the impact that social role limitations had on self-concept clarity during older adulthood. In both samples, limitations of social role activity due to poor health were of utmost importance to lowered levels of self-concept clarity. Older adults who did not experience age-linked impairments in their role functioning because of health concerns maintained or even increased midlife levels of self-concept clarity. Clearly, the changing physical world of older adults can have a profound impact on the perception of identity. This finding has broad implications for the field of gerontology, from understanding how older adults represent their identity to directing therapeutic interventions in a clinical setting.

Limitations and Future Directions

It is important to note when discussing these studies that our findings are cross-sectional in nature and that the analyses cannot speak to the causal nature of these relationships. In fact, it is likely that these relationships are all highly reciprocal. For example, self-concept clarity is related to psychological health (Bigler et al., 2001; Campbell et al., 1996), conscientiousness (Campbell et al., 1996), and emotional stability (Campbell et al., 1996), all of which, in turn, predict important health outcomes across the life span. Therefore, self-concept clarity may, itself, contribute to better physical health, allowing for self-concept clarity to continue growing into older adulthood. Future research should examine the trajectory of self-concept clarity in relation to social role experiences from a longitudinal framework to address causal questions in regard to the development of self-concept clarity.

In a similar vein, the cross-sectional nature of the present research leaves open the possibility that the age effects found in our samples are due to cohort differences rather than to actual differences in self-concept clarity over the life span. Certainly, each generation has different values and norms guiding identity. Individuals born during the Great Depression will undoubtedly be quite different from individuals raised on the Smurfs and Michael Jackson. Again,

longitudinal research is necessary to replicate these findings over time as well as across age groups.

Finally, though the current research examined a number of social experiences underlying age differences in self-concept clarity, it was not exhaustive in its consideration of these factors. For example, many other social roles exist, especially in older adulthood. Future research would benefit from considering factors such as grandparental and leisure roles. In addition, the present research did not address the way in which one of the most profound areas of change in adulthood, cognitive decline, impacts age differences in self-concept clarity. Economic struggles and physical health are not the only factors that can contribute to role disengagement during older adulthood. Cognitive declines are one of the biggest challenges facing the older adult population today. Cognitive declines may, like physical challenges, impair an individual's ability to engage in and commit to social role activities. Future research should consider how changes in cognitive functioning affect changes in identity over time.

Conclusion

The current research established that self-concept clarity has a curvilinear relationship to age across adulthood, with higher levels through middle age followed by lower levels in older adulthood. These differences were linked to social role experiences. This influence was particularly pronounced during older adulthood such that having the means to maintain social role involvement helps prevent declines in self-concept clarity and may even foster continued increases in identity certainty.

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