Review Article

Intra-Individual Value Change in Adulthood

A Systematic Literature Review of Longitudinal Studies Assessing Schwartz's Value Orientations

Carolin Schuster[1], Lisa Pinkowski[1], and Daniel Fischer[1,2]

[1]Institute of Psychology, Leuphana University, Lüneburg, Germany
[2]School of Sustainability, Arizona State University, Tempe, AZ, USA

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Abstract: Values guide people in their lives as overarching principles of judgments and decision making. Focusing on Schwartz's circumplex value model, the present work is the first systematic literature review (SLR) to comparatively synthesize the empirical evidence regarding stability and change of values in adulthood. Besides understanding the extent of value change, the aim of this review is to reveal the conditions under which values change. The search procedure and screening revealed 19 publications reporting empirical studies on 25 adult samples containing at least two measurements of Schwartz's values in respondents. Results suggest moderate to high rank-order stabilities of values, even through potentially life-changing transitions. There is evidence of small changes, rarely consistent with theoretical predictions or cross-sectional findings. Preliminary experimental evidence shows that values can be changed with interventions. We identify considerable gaps in knowledge about value change and propose promising avenues for further research.

Keywords: value change, value stability, value profiles, Schwartz's value theory, longitudinal studies

Values represent "guiding principles in people's lives" (Schwartz & Bardi, 2001, p. 269) that are thought to organize more context-specific attitudes and goals and predict various behaviors; for example, voting (Vecchione, Caprara, Dentale, & Schwartz, 2013) or pro-environmental behavior (Thøgersen & Ölander, 2002). Some values – namely, those related to helping or protecting others – are seen as more socially desirable than others. They are considered to be moral values (see Schwartz, 2007). Societies thus have an interest in promoting such values. However, it remains an open question whether, to what extent, and under what conditions values change in adults. Typically, the formation of a stable value system is seen as a developmental process during childhood and adolescence (see Knafo & Schwartz, 2010). Developmental theories also focus on how children and adolescents acquire moral reasoning abilities through several stages culminating in a mature state (Kohlberg & Kramer, 1969; Piaget, 1948). While values are conceptually different from moral reasoning, these developmental stages could be understood as the increasing adoption of moral, pro-social values, which then stabilize in early adulthood. Previous cross-sectional research has shown correlations of these kinds of values with age (Schwartz et al., 2001), possibly resulting from individual development. However, given the lack of longitudinal data it could also be a difference between age cohorts. While there does not seem to be much longitudinal research on value change in adults, there is a theoretical model that posits that value change can happen in either direction by processes similar to attitude change (Bardi & Goodwin, 2011). To a large extent, however, this model is not based on empirical research on value change but by analogy to other well-known processes (e.g., consistency maintenance). In order to clarify whether values change in adulthood, a systematic synthesis of existing findings on the changeability of values is needed. This paper undertakes a systematic literature review (SLR) to present such a synthesis. First, we outline the construct and measurement of basic personal values. Then, we describe the method of the SLR and summarize the resulting sample of studies. Finally, we discuss the findings with regard to conclusions on the stability and change of values and conclude by suggesting next steps for closing research gaps.

Values as a Psychological Construct

According to previous reviews on values (Schwartz, 1994; Schwartz & Bilsky, 1987), a value can be defined as "a

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(1) belief (2) pertaining to desirable end states or modes of conduct, that (3) transcends specific situations, (4) guides selection or evaluation of behavior, people, and events, and (5) is ordered by importance relative to other values to form a system of value priorities" (Schwartz, 1994, p. 20). Previous theories differ less in their definitions of values than in which values are considered relevant and in how their relationship is conceptualized (Rokeach, 1973; Schwartz & Bilsky, 1987; Vernon & Allport, 1931). Psychological research on values has a long history (Vernon & Allport, 1931). One of the currently best theoretically founded and empirically validated model of values is the circumplex model of Schwartz (1992, 1994), Schwartz and Bilsky (1987). Based on extensive cross-cultural studies, the model proposes a universal set of 56 *specific values* clustered into 10 distinct *value types*. These specific values, and accordingly the value types, are arranged on two orthogonal *value dimensions* (or four *value clusters* depicting the poles of these dimensions) in a circular pattern, with four value clusters depicting the poles of the two dimensions. The model predicts that values or value types on opposite sides of the circle correlate negatively, whereas neighboring values correlate positively. For example, people who prioritize having power, also tend to care about achievement but less about universalism (e.g., values of equality and unity with nature). Due to its wide-spread use and comprehensiveness, this SLR focuses exclusively on Schwartz's approach.

Measuring Values

There are several ways to measure the values proposed by Schwartz. The original measure, the Schwartz Value Survey (SVS), asks participants to rate the importance of each of the 56 values on a 9-point scale ranging from −1 (= *opposed to my values*) to 0 (= *not important*) and finally 7 (= *of supreme importance*). Schwartz (2013) recommends correcting participant ratings for response tendencies (i.e., their mean rating). A short 12-item version of this scale has been proposed by Stern, Dietz, and Guagnano (1998). The Portrait Values Questionnaire (PVQ) was developed as a measure more suitable for some samples (Schwartz et al., 2001). It contains 40 short descriptions of persons, each of which are rated based on their similarity to the respondent on a 6-point scale (1 = *very much like me* to 6 = *not like me at all*). There is also a 21-item short version. Another survey, the Schwartz Values Best-Worst Survey (SVBWS), was developed by Lee, Soutar, and Louviere (2008), with respondents asked to choose one value item as the most important and another one as the least important from different sets of values constructed from all 56 value items.

Research Questions

In summary, there are various reasons to assume that values are relatively stable over time: by definition, they transcend situations; they are overarching, abstract principles in a person's belief system; they are deeply engrained in the individual's sense of identity (see Hitlin, 2003); and they might be the consequence of a developmental process completed by adulthood. However, it is also plausible to expect that life experiences or transitions, the continuous influence of other people, or even maturation will affect a person's basic value priorities. Given societal interest in value change and the lack of a reliable synthesis of empirical evidence on value change, this review aims to answer two research questions with regard to a general population:

1. How intra-individually stable are basic human values over time in adulthood?
2. To what extent and under which conditions do intra-individual changes in values occur in adulthood?

Method

To answer these research questions, a SLR was conducted. A SLR is an "explicit, comprehensive, and reproducible method for identifying, evaluating, and interpreting the existing body of original work produced by researchers and scholars" (Fink, 2014, p. 36). The steps of this method are summarized in Figure 1.

Search Strings and Inclusion Criteria

We chose SCOPUS as a major database for peer-reviewed psychological research to extract an initial database sample. The search was restricted to peer-reviewed journal articles written in English or German in the field of psychology. The search strings were chosen to find as many relevant papers as possible while producing a minimum amount of irrelevant papers. We searched for the combined terms "value change" OR "values change" OR "change of values" OR "value stability" OR "stability of values" in article titles, keywords, and abstracts. The original search was conducted in April 2017 and updated during the revision of the article (2018/06/26).

In order to attain a sample of comparable publications well suited to answering our research questions, we defined four inclusion and exclusion criteria. First, we looked for empirical studies with at least two temporally distinct value measurements of the same individuals. Second, only studies with a focus on general values as conceptualized by Schwartz were included. Third, values had to be

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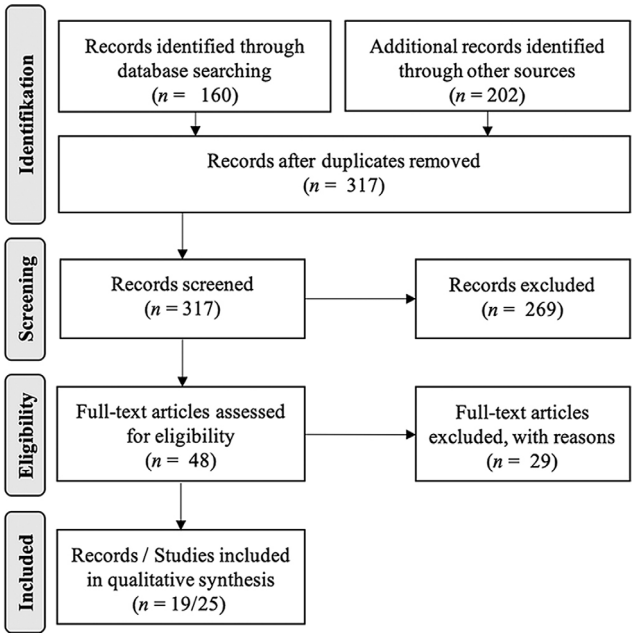

Figure 1. PRISMA flowchart of the search and screening procedure.

measured with a scale based on a version of Schwartz's circumplex model to ensure comparability and conceptual clarity. Fourth, the samples had to be of the general adult population (18 years or older and without disabilities or clinical conditions).

Screening Procedure

Two screening procedures were applied to all publications identified in the iterative search process. In the practical screening, the titles and abstracts (if available) of the initial sample of articles were read and those not fulfilling the criteria were excluded. Next, in the in-depth screening (eligibility check) the full texts of the remaining papers were examined and further irrelevant papers were excluded. Out of the papers identified through the initial database search (n = 160) and the hand search (n = 2), n = 42 papers passed the first screening step. Of these papers, another subset of n = 13 passed the second screening step (eligibility check) and formed the preliminary sample (n = 13).

To enhance the comprehensiveness of the preliminary sample, a citation and a reference search was conducted using the Scopus database. The papers identified through citation search (n = 153) yielded another four additional articles fitting the inclusion criteria of both screening steps. In the reference search, another n = 45 papers were identified, with one fitting the inclusion criteria of both screening steps. The preliminary sample together with the five articles identified through citation and reference searches formed the pre-final sample (n = 18), which was then reviewed by external experts chosen among the authors most frequently appearing in the pre-final sample. Five authors were contacted (see Acknowledgments), all of whom replied. These experts suggested four additional papers, one of which fitted the inclusion criteria, resulting in a final sample of N = 19 articles. The screening protocol and the PRISMA statement are available as supplemental material at https://doi.org/10.17605/OSF.IO/E73CA or http://dx.doi.org/10.23668/psycharchives.926.

Results and Discussion

Categorization of the Final Sample of Studies

The 19 articles yielded a total of 27 relevant reported studies, all of which were published within the last two decades (see Table 1). Two articles presented studies on participant samples already analyzed in another article, thus reducing the total number of relevant studies to 25. The studies were categorized into three groups according their design and focus. Five studies from four articles were general longitudinal studies, observing stability or changes of values in the general population over a period of 1–8 years. Twelve studies from ten articles were longitudinal transition studies of value changes in the context of certain potentially life-changing transitions or environmental changes. Nine experimental studies from five articles were intervention studies testing the effects of specific interventions to initiate value change.

Furthermore, the studies used different methods to relate the measurement points to each other. One common way was to determine mean-level changes in values over two time points. A second common way was to examine rank-order stability for each value within a sample over two time points. A third less frequently used approach was to examine the stability of value profiles (intra-individual correlations of value rankings) over two time points. On the group level, the mean profile stability thus indicates how stable average individual priorities within the whole set of values are across time. Besides indicators of stability and change, for each study the population, sample size, and, if available, theoretical reasoning will be reported in order to provide some general indicators of interpretability or potential bias of the results.

General Longitudinal Studies: How Stable Are Values in General?

Four empirical studies examined the longitudinal change of values without any interventions or specific variations of

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Table 1. Final sample of papers in the systematic literature review

Reference	*N*	Age *M* (*SD*)	Time span	External influence
General longitudinal studies				
1. Dobewall and Aavik (2016)	53	26 (9)	3 years	(College graduation)
2. Milfont et al. (2016)	3,962/5,156	49 (15)	3 years	
3. Thøgersen and Ölander (2002)	1,090	> 17	1 year	30%: New waste disposal
4. Vecchione et al. (2016)	107	All 21–22	8 years	(Transition to adulthood)
Longitudinal transition studies				
5. Bardi et al. (2009) (Study 2)	129	20 (4)	1 year	College
6. Bardi et al. (2009) (Study 3)	119	20 (4)	3 months	College
7. Bardi et al. (2009) (Study 4)	135	39 (12)	2 years	Stressful life events
8. Myyry et al. (2013)	132	26 (7)	3 years	College
9. Bardi et al. (2014) (Study 1)	81	27 (7)	9 months	Police training
10. Bardi et al. (2014) (Study 2)	131/65	18/19 (3/1)	2 years	Psychology/business major
11. Bardi et al. (2014) (Study 3); see also Goodwin et al. (2011)	151	27 (7)	1.5 years	Migration
12. Lönnqvist et al. (2011, 2013)	136	44 (14)	2.5 years	Migration
13. Sundberg (2016)	129	In their 20s	6–7 months	Deployment to war zone
14. Vecchione et al., 2013 (Study 1)	1,030	44 (18)	7 weeks	Election
15. Bègue and Apostolidis (2000)	53	20	3 months	National involvement in war
16. Lönnqvist et al. (2018)	292	women: 32 (4)/men: 34 (34)	< 1 year	Birth of first child
Experimental intervention studies				
17. Arieli et al. (2014) (Experiment 1)	36	19 (1)	s. s.	Self-persuasion task
18. Arieli et al. (2014) (Experiment 2)	48	23 (2)	2 weeks	Self-persuasion task
19. Arieli et al. (2014) (Experiment 3)	58		4 weeks	Self-persuasion task
20. Bernard et al. (2003) (Experiment 1)	100	21	s. s.	Reasoning task
21. Maio and Olson (1998) (Experiment 1)	77	Students	s. s.	Reasoning task
22. Maio and Olson (1998) (Experiment 2)	138	Students	s. s.	Reasoning task
23. Maio and Olson (1998) (Experiment 3)	144	Students	s. s.	Reasoning task
24. Maio et al. (2009) (Experiment 1)	175	Students	s. s.	Directed reasoning task
25. Hirose (2004)	135/48	19	s. s./3 months	Anticipating actualization

Note. Studies are presented and numbered in order of appearance in the SLR results section. Number 12 has two references because follow-up analyses of the same sample were published separately. Number 11 has two references because both studies use the same participant sample and fit inclusion criteria, however, the stability and change statistics are reported in Bardi et al. 2009, Study 3. *N* refers to the number of participants who completed all measurement points. Time span refers to the difference between the first and the last measurement points (s. s. = same session). External influences in parentheses are not reported as such by authors, but could be derived from the sample description.

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conditions between measurement points. These studies provide some information about the general stability of values, and possible aging effects. Vecchione and colleagues (2016) surveyed the longest period (8 years; $N = 107$). Analyses of stability and change were, as in most studies, conducted on the level of value types. Even over an 8-year period, values were considerably stable, with an average correlation coefficient of $r = .66$. This is comparable to the rank-order stability of personality traits in adulthood (Roberts & DelVecchio, 2000). The least stable value type was power ($r = .51$) and the most stable was self-direction ($r = .82$). Despite the high stability of participant rank in the sample, with the exception of the three values in the openness to change category (self-direction, stimulation, and hedonism), the means of all value types changed significantly over the 8-year period. Self-transcendence and conservation values increased, whereas power and achievement values decreased. However, most changes were small, and they often occurred between the first and second measurements. The most interesting finding in this study may concern the stability of individual profiles, which ranged from $r = -.30$ to .89, $M = 0.59$, $SD = 0.25$. While most people's profiles were at least moderately stable, 5% of all participants had profile correlations below $r = .14$. This shows that the extent of change in value priorities varies highly among individuals.

The only other study covering all three indicators examined a smaller sample ($N = 53$) over the course of 3 years (Dobewall & Aavik, 2016). The average rank-order stability of value self-reports was $r = .50$, ranging from $r = .21$ (*ns*, tradition) to $r = .65$ (conformity). Mean levels in conformity values slightly decreased. The mean stability of value

profiles was M = 0.67, SD = 0.28, which is similar to the findings of Vecchione and colleagues.

The largest longitudinal sample stems from a country-wide New Zealand four-wave study (Milfont, Milojev, & Sibley, 2016). Different Bayesian analyses were used to examine two out of four measurements, with the respective sample sizes being 3,962 for the 3-year rank-order stability analysis and 5,156 for the 4-year mean-level change (i.e., latent growth models). The sample is also uniquely diverse in age (Min = 25, Max = 75, M = 50, SD = 15). The measures on the level of the value clusters conservation, openness to change, self-transcendence, and self-enhancement all showed moderate rank-order stabilities, with Bayesian point estimates ranging from β = .55 to .60. In addition, there were age effects on the stability of conservation values (but not of other value clusters), which became more stable in early adulthood, slightly less stable between the age 40 and 60, and then more stable again. The analyses of mean-level changes showed that all value clusters decreased significantly in importance between measurements, which might be an artifact (Shrout et al., 2017).

Finally, another large sample (N = 1,090) was surveyed twice over a 1-year period (Thøgersen & Ölander, 2002) but only with regard to self-transcendence and self-enhancement values (namely, benevolence, universalism, power, achievement, and hedonism). The 1-year stability of these values was high, ranging from r = .56 (hedonism) to r = .68 (universalism). There were no significant mean-level changes on the level of the value types, and the reported single item changes might be spurious. Interestingly, the stability of universalism in the fraction of the sample with more opportunity to show universalism-consistent environmentally friendly behavior (participants from an area where a new recycling system had been introduced) was in trend even higher than for the rest.

In summary, this type of studies provides convincing evidence of moderate-to-high rank-order stability of value types. While mean-level changes were significant in three out of four studies, there is no recognizable pattern and the changes were rather small. In addition, individual value profile stability was high on average but ranged widely.

Longitudinal Transition Studies: How Stable Are Values Throughout Life Change?

One approach to examining value change and its potential causes is to accompany participants through life transitions (i.e., measurements before and after potentially relevant events). Eleven studies in our final sample used this approach. One study (Bardi et al, 2009, Study 4) measured the extent of individual life-changing events (e.g., death of a spouse) between the two value measurements (N = 135). The stability of values over 2 years was lower than found previously with other measures, ranging from r = .26 (power) to .58 (self-direction). The only significant mean-level change in the sample was an increase in the importance of hedonism. A multiple regression analysis of absolute change in all values showed that the extent of life-changing events was a significant predictor, whereas age was not significant (R^2 = 0.08).

Educational Transitions

Five studies examined value change in the context of the transition to higher education or vocational training. Going to college is a life-changing event for many young adults. Two studies by Bardi and colleagues (2009; Study 2 and 3) sampled university students at the beginning of their first year and again at the beginning of their second year (N = 129) or after 3 months (N = 119), respectively. The rank-order stability over a year (Study 2) ranged from r = .50 (conformity/achievement) to r = .70 (universalism) and over 3 months (Study 3) from r = .48 (benevolence) to r = .76 (universalism). In Study 2, the means of benevolence decreased and that of power increased. In Study 3, means of universalism and power values increased. The authors also conducted further analyses that largely supported their hypothesis that intra-individual value changes (difference scores) occur in line with the circumplex structure of the value model.

A similar study examined students at the beginning of their bachelor programs and 3 years later (Myyry, Juujärvi, & Pesso, 2013; N = 132). The 3-year rank-order stabilities of value types were similarly high as in the general longitudinal samples, ranging from r = .59 (hedonism) to r = .78 (universalism). There were small but significant decreases in achievement values and increases in universalism and security values. In another study, Bardi and colleagues (2014, Study 2) hypothesized more specifically that psychology students would be socialized to endorse benevolence and universalism, while business students endorsed power and achievement. The values of students (131 psychology majors and 65 business majors) were measured at the beginning of the first, second, and third years of their studies. However, while there was evidence for value-based self-selection (psychology students valued universalism and benevolence higher and power lower than business students at T1), the mean-level changes of the two groups did not support the socialization hypothesis. Specifically, both groups decreased in conformity, and psychology students increased very slightly in stimulation, hedonism, and security values (ds < 0.05). This contradicts the assumption of value socialization throughout college. In line with that, another study (Bardi et al., 2014, Study 1) testing police trainees at the beginning and end of a 9-month training

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period (N = 81) found that there was not, as a socialization hypothesis would predict, an increase in conformity and power and decrease in self-direction values, nor did any other values change significantly. In summary, in five studies no consistent patterns of mean-level value change were found resulting from the transition to college or vocational training. There is also no clearly recognizable pattern pointing to a specific susceptibility of important or unimportant values to change.

Migration as Transition

Another transition that has been examined with regard to value change is migration to another country. One such study (Bardi et al., 2014, Study 3), which examined value-based self-selection versus socialization in transition, tested Polish immigrants to Britain within 3 months after arrival and then two more times in 9-month intervals (N = 151). Based on country differences in values (as reported in public databases), the socialization hypothesis would predict an increase in self-direction, stimulation, hedonism, and benevolence, along with a decrease in tradition, conformity, security, and power values. However, only self-direction increased significantly. Power values also increased, an ambiguous finding, given that the migrants at the beginning had not only lower ratings with regard to power values than their fellow countrymen but also lower than the British. Another analysis of the same sample (R. Goodwin, Polek, & Bardi, 2011) shows that the belief that human behavior is highly variable and context sensitive predicts increases in universalism and self-direction values and decreases in tradition values.

A similar study (Lönnqvist, Jasinskaja-Lahti, & Verkasalo, 2011, 2013) compared Ingrian-Finnish migrants from Russia to Finland before and 3–15 months after migration (Lönnqvist et al., 2011; N = 145), and again 13–28 months after migration (Lönnqvist et al., 2013; N = 136). The findings at the second measurement indicate a significant increase in universalism and security, and a decrease in power and achievement values. The authors explain these changes in their hypotheses with intergroup contact (universalism), stress or threat of migration (security), and downgrading as a response to discrimination (achievement and power). As reported in the follow-up article (Lönnqvist et al., 2013), individual values at the third measurement tended to rebound to their original rating. Interestingly, the two studies on migration propose different hypotheses about underlying processes (socialization in host country versus adaptation to stress) and the direction of value change in migrant populations.

Deployment to a War Zone

Another interesting analysis of value change comes from Sundberg (2016), who sampled Swedish ISAF soldiers (N = 129) before deployment to Afghanistan and again after their return 6 months later. In addition to values, measurements included the big five personality traits and the extent of combat exposure during the tour. Rank-order stabilities in this study were on average r = .82, with tradition as by far the least stable (r = .57) and benevolence and conformity the most stable (r = .92). Mean-level change was analyzed cross-sectionally only; however, value change at the individual level was calculated in the form of the reliable change index, a measure that compares an individual's change score to an expected distribution of scores if no actual change were to take place. This analysis shows that the importance of at least one value changed for approximately 80% of the respondents. However, it also shows that for the vast majority of participants each value is stable and that increases and decreases in value importance are balanced. The individual's profile stability reached a mean of r = .75 (SD = 0.22), which further indicates that value priorities stayed mostly unchanged. A striking type of analysis in this study involved the graphic visualization of change patterns. It indicates that changes mostly occurred toward the group mean. And finally, regression analysis of combat experiences and personality as predictors of value change show that the former was only marginally significant, and only with regard to whether or not change occurred at all. Personality traits, on the other hand, predicted the magnitude of value change for conscientiousness and emotional stability negatively and for openness positively. Despite the participants' relatively extreme experiences, the stability indicators in this study were among the highest of all studies. In addition, the small changes that occurred are not as systematic and predictable as one might expect under similar external pressures.

Becoming a Parent

One study (Lönnqvist, Leikas, & Verkasalo, 2018, Study 2) examines how values change during the role transition of becoming a parent for the first time. Their sample of 292 participants (146 couples) reported their values during the pregnancy and on average 3.3 months after birth of their child. Only mean-level changes on the value dimensions were reported, finding a small but significant shift toward conservation values in new mothers (but not fathers) and no significant change on the self-transcendence/self-enhancement dimension. The authors emphasize that having a child is a "prototypical example of the type of event that would be expected to induce value change" (p. 50).

Political Events

Finally, two more studies were included in the category of transitional studies. However, the external life changes in these studies are far subtler than in the other studies. Bègue and Apostolidis (2000) examined the values of 56 female

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French undergraduates before and during the Balkan war (in which the French army participated). They hypothesized an increase in conformity and security values but in a survey after the war found an increase only in universalism and stimulation values. However, these results have to be taken with caution, given several methodological and/or reporting issues in this paper (e.g., the scale means are only partially reported and are higher than the scale maximum). The external event between measurements in Vecchione and colleagues' (2013) was an election in which the participants (N = 1,030) voted. The research question was concerned with reciprocal effects between values and voting behavior (center-right or center-left coalition). They do not report mean-level change. The prediction of values at T2 by T1, an indicator for rank-order stability, was very high, with estimates ranging from β = .75 (benevolence) to β = .87 (tradition). As hypothesized, several basic values predicted the vote, but the vote did not reciprocally affect values.

In summary, the longitudinal study of basic values under a variety of potentially influencing conditions shows only little evidence of systematic change consistent with theoretically well-founded hypotheses. The exception might be that conservation values become more important to women after they become mothers (Lönnqvist et al., 2018). It may be that becoming a mother is a transition more similar across individuals, whereas, for example, migration involves more variable experiences and challenges, thus making it easier to predict a sample-wide direction of value change for new parents than for migrants. Otherwise, values are shown to be highly stable throughout transitions. In addition, except for the study by Sundberg (2016), only indicators of rank-order stability and mean-level change were examined in longitudinal transition studies, measures which are not designed to detect whether changes occur in individuals. Their sample also shows high rank-order stability, with no significant mean-level changes, and a highly consistent value profile for most participants. Still, most participants changed their priorities somewhat, but in various different ways and depending on differential as well as situational factors. Of the two studies measuring the extent of relevant events, one shows it moderately predicts value change (Bardi et al., 2009, Study 4), and one shows it tends to (Sundberg, 2016), so this might be a worthwhile approach for further research.

Experimental Studies: Can Values Be Changed Intentionally?

Valuable insights into the processes of value change have also been gained by experimental studies, in particular a line of research by Gregory Maio and colleagues (Bernard, Maio, & Olson, 2003; Maio & Olson, 1998; Maio, Pakizeh, Cheung, & Rees, 2009). Based on the values-as-truisms hypothesis that people often hold values with little cognitive support, they developed an intervention requiring participants to write down reasons for a list of values. They then used elaborately disguised pre-post value measurements to test the effect of this intervention on items representing this specific value cluster itself, compared to other clusters, and compared to the control condition. Three experiments (Ns = 77/138/119) show that the absolute changes in relevant values (in this case self-transcendence) were higher than in the control condition (Maio & Olson, 1998) but not in irrelevant values (openness) and only if participants previously lacked cognitive support for their values (Study 2). This idea was extended in another experiment by systematically varying the value cluster in the reasoning intervention (Bernard et al., 2003; N = 100). The results show that value change occurs specifically on the value clusters about which participants in that experimental group reasoned. The reported changes in all four experiments were absolute changes, and so either an increase or a decrease in the respective values. However, the favorability of reasons (coded) for a value tended to correlate with the direction of change.

A slightly different intervention with a similar rationale (Maio et al., 2009; N = 175) was used to test the possibility of changing values in a specific direction. Here, participants in the experimental condition were given bogus rankings of their peer groups' mean values, with either self-transcendence, self-enhancement, openness, or conservation values ranked highest. Then they had to compare their own rankings with the bogus rankings, read a positively sounding explanation about the values and the people who hold them, and then write a short explanation of their value choice. The control group performed a memory task. A mixed model analysis of the interaction effects shows that the intervention led to an increase in the importance of the values within a given cluster and a decrease in the opposite value cluster in the circumplex model (e.g., a self-enhancement value intervention increased self-enhancement and decreased self-transcendence values). With the objective of changing specific values in a specific direction (increasing benevolence values), Arieli, Grant, and Sagiv (2014) tested a persuasion intervention in three experiments. In line with theoretically postulated facilitators of value change (Bardi & Goodwin, 2011), their 30-minute intervention contained elements of priming, consistency maintenance, and self-persuasion. All three experiments (Ns = 36/48/58) provided evidence for the benevolence-increasing effect of the intervention. Experiment 3 showed that the effect lasted until 4 weeks after the experimental session. On a methodological note, all experiments described so far construct elaborate cover stories to hide the intention of changing values.

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A very different intervention was tested by Hirose (2004) in an experiment where participants first rated their values and then completed a second test that constituted the manipulation. In this test, they either rated their anticipated happiness if they hypothetically "actualized" a value (e.g., supporting environmental protection or becoming a millionaire) or estimating the degree of gender inequality with regard to the same items. The hypothesis was that actualization of values increases their importance. The analyses (probably regression analyses of T2 on T1 values separately for each condition; $N = 140$) suggest that 16 of the 20 specific values increased in importance in the experimental condition but only two increased in the control condition. In a follow-up with only the experimental condition ($N = 50$), only two values were found to be still more important compared to pretest values. All experimental studies used student samples.

In summary, experimental research on value change shows that interventions involving cognitive justification of value importance lead to at least moderate, consistent changes in values. There is only some evidence that values can be influenced in a specific direction, and only one study attempted this with the complete spectrum of Schwartz's values. In addition, it is not yet clear how long these effects last.

Discussion

Summary: What Do We Know About Value Stability and Change?

Concerning the first research question, we conclude that there is good evidence for a moderate to high rank-order stability of the ten basic value types in the Schwartz's circumplex model over time, even over several years. The actual stability might even be underestimated, as measures of value types tend to have lower internal consistencies than conventional norms of reliability prescribe, especially if short scales are used (L. D. Goodwin & Leech, 2006; Schwartz, 2013). When intra-individual profile stability is examined, the results show that most people retain value priorities over time. Despite this finding, correlations of value profiles over time seem to vary considerably between persons, pointing to the possibility of value change (Studies 1 and 4; here and in the following, the studies are referenced by the study number in Table 1).

With regard to the second research question, most studies explicitly examine how the importance of each value type changes in their sample. There are three broad categories of changes that have been examined. First, changes that take place over time in general. A possible theoretical explanation for mean-level changes in these studies is aging, although the times between measurements exceeded 3 years in only one study. The changes, if significant, are mixed in direction and small in size. Previous cross-sectional research has found that age positively correlates with self-transcendence values and negatively with self-enhancement values (Schwartz, 2005), which is supported by cross-sectional analyses in Study 2. However, only Study 4 provides consistent evidence of intra-individual change in this direction.

Second, several studies examine changes through life transitions, most of them following one of two rationales. One line of studies examines whether changes of social context lead to value socialization but found little evidence that people become more similar to the social context to which they transition (Study 8); Rather, people seem to self-select into settings that fit their values (Studies 5, 6, 9, 10, and 11). A second (more or less explicit) theoretical rationale for value change considers transitions as difficult, confusing, and possibly threatening situations that might trigger a re-evaluation of values (Studies 7, 12, 13, 15, and 16). With the exception of becoming a parent (Study 16), these transitions did not point to a consistent pattern of change (Studies 13 and 15). If changes in line with hypotheses were found, a follow-up measurement showed a rebound to the original value pattern (Study 12). This sparsity of evidence predicting value change through life transitions might be at least partially attributable to the individual nature of value change. Changes of group means might thus not be informative about individual value change. For instance, some people might react to their transition to college, with its social and educational opportunities and challenges, by valuing stimulation and openness more, while others might prioritize universalist responsibilities. If the needs and challenges related to the new situation show little variance across individuals, as may be the case with becoming a mother, then mean-level change may be more likely (Study 16).

The third approach involves using experimental studies to determine when and how changes of values might happen. An interesting theoretical concept is that values are often "truisms", meaning that they feel true but it is difficult to explain why (Maio & Olson, 1998). Accordingly, as long as a value lacks cognitive support, being able to come up with good reasons for it might strengthen its importance, whereas not being able to do so may erode its importance (Studies 20–24, also 17–19 at least partially). Priming or providing reasons for a given value position lead participants to convince themselves of the importance of certain values or value types (Studies 17, 18, 19, and 24). However, if the purpose of the intervention was not carefully disguised, as it was in these studies, participants might rightfully feel

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manipulated, and develop reactance. This would raise ethical problems for real-world applications to change values.

With regard to the limitations of this SLR, the most important one may be its focus on Schwartz's value model (1992), excluding potentially informative studies based on older theories like Rokeach's (1973). However, the theoretical comparability of the construct across studies seemed more important. A second limitation might be the effectiveness of the search strings. The fact that three articles were added from sources not found in the database search indicates that the search strings did not capture all relevant studies. However, trade-offs were required to limit the number of irrelevant papers. The risk of severe publication bias is low, at least with regard to general and transitional longitudinal studies. As the statistics we were interested in were often only a small part of the results, it is unlikely that publication would depend on their significance. In addition, most of the transitional longitudinal studies in the sample report did not find the expected mean-level changes.

Implications and Research Agenda

This SLR reveals that basic value change is an emerging topic in psychological research. However, there are still large gaps in the research. Further research in the following areas seems crucial to narrowing these gaps.

First, very few studies examine intra-individual profile stability and change. The data of longitudinal studies could be reanalyzed for ipsative profile correlations. In the only study reporting the full range of such correlations, there were also negative correlations (Study 4), meaning that some people's value priorities tended to reverse. Getting a better grasp of the distribution of profile stability, as well as its predictors, could provide valuable insights into moderators of value change. Besides the profile correlations, indicators of individual-level change (e.g., difference scores) have been informative where reported (Studies 7 and 13), showing the relationship between life-changing events and value change (Study 7). Similarly, such indicators could be correlated in future research with, for instance, personality traits, environmental primes, incentives, or other possible facilitators of value change (Bardi & Goodwin, 2011; R. Goodwin et al., 2011). These indicators could also be used to compare groups with greater or lesser changes as well as to compare groups that changed in different directions under similar conditions.

Second, and this holds for both longitudinal studies on transitions and for experiments, there is a need to better integrate findings into theoretical models of value change and describe causal relationships more clearly. The dual route model of value change (Bardi & Goodwin, 2011) is a promising model as it describes several cognitive mechanisms by which value change can be facilitated (e.g., adaptation, consistency maintenance). The model integrates several processes involved in value change but remains vague as to the direction and boundary conditions of initial as well as long-term change. One boundary condition to value change via self-persuasion has been already identified by Maio and Olson; namely, existing cognitive support (1998). We suggest that future researchers relate predictions to specific theoretical models, possibly refining the dual route model with better-supported theories on the effect of specific facilitators and moderators (e.g., strategies of consistency maintenance).

Third, in the sample of studies the range of time between measurements varies from a few weeks to 3–4 years, with one outlier of over 8 years. Over such a short time period, aging effects on values cannot be examined, as they are more likely to occur over longer time periods or be mediated by changes in roles or experiences confounded with biological age (e.g., parenthood). In addition, most studies consisted of adults in their twenties. The one large study with a better cross-sectional age variance points to variations in stability and change of values across age groups (Study 2). In addition, two studies indicating initial value changes in the context of migration (Study 12) or an intervention (Study 25) found at least partial rebound to the baseline in a follow-up measurement. Therefore, to learn more about the triggers and moderators of enduring value change, longer time intervals are needed between measurement points.

Conclusion

A systematic review of literature on value stability and change reveals an emerging interest in the topic as well as large gaps in the current state of published research. In summary, the high stability of basic values over time is not only theoretically plausible but also confirmed empirically, even though studies with greater measurement intervals are needed to better understand the role of age in value change. Studies on the development of values through life transitions remain inconclusive. This might at least partially be remedied by study designs that capture value change and its underlying processes on the individual level. Experimental studies imply that specific value types can be effectively targeted, but only a handful show effective change in a specific direction. In addition, it remains unclear how long value change triggered by interventions or external events persists. The results of this review should encourage researchers to intensify their efforts to provide further evidence on the conditions for changing values in adulthood.

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References

Arieli, S., Grant, A. M., & Sagiv, L. (2014). Convincing yourself to care about others: An intervention for enhancing benevolence values. *Journal of Personality, 82*, 15–24. https://doi.org/10.1111/jopy.12029

Bardi, A., Buchanan, K. E., Goodwin, R., Slabu, L., & Robinson, M. (2014). Value stability and change during self-chosen life transitions: Self-selection versus socialization effects. *Journal of Personality and Social Psychology, 106*, 131–147. https://doi.org/10.1037/a0034818

Bardi, A., & Goodwin, R. (2011). The dual route to value change: Individual processes and cultural moderators. *Journal of Cross-Cultural Psychology, 42*, 271–287. https://doi.org/10.1177/0022022110396916

Bardi, A., Lee, J. A., Hofmann-Towfigh, N., & Soutar, G. (2009). The structure of intraindividual value change. *Journal of Personality and Social Psychology, 97*, 913–929. https://doi.org/10.1037/a0016617

Bègue, L., & Apostolidis, T. (2000). The 1999 Balkan war: Changes in ratings of values and pro war attitudes among French students. *Psychological Reports, 86*, 1127–1133. https://doi.org/10.1177/003329410008600309.2

Bernard, M. M., Maio, G. R., & Olson, J. M. (2003). Effects of introspection about reasons for values: Extending research on values-as-truisms. *Social Cognition, 21*, 1–25. https://doi.org/10.1521/soco.21.1.1.21193

Dobewall, H., & Aavik, T. (2016). Rank-order consistency and profile stability of self-and informant-reports of personal values in comparison to personality traits. *Journal of Individual Differences, 37*, 40–48. https://doi.org/10.1027/1614-0001/a000186

Fink, A. (2014). *Conducting research literature reviews: From the Internet to paper*. Thousand Oaks, CA: Sage.

Goodwin, L. D., & Leech, N. L. (2006). Understanding correlation: Factors that affect the size of *r*. *The Journal of Experimental Education, 74*, 251–266. https://doi.org/10.3200/JEXE.74.3.249-266

Goodwin, R., Polek, E., & Bardi, A. (2011). The temporal reciprocity of values and beliefs: A longitudinal study within a major life transition. *European Journal of Personality, 26*, 360–370. https://doi.org/10.1002/per.844

Hirose, H. (2004). Changes in values cognition after rating values-associated feelings. *Japanese Psychological Research, 46*, 115–120. https://doi.org/10.1111/j.0021-5368.2004.00242.x

Hitlin, S. (2003). Values as the core of personal identity: Drawing links between two theories of self. *Social Psychology Quarterly, 66*, 118–137. https://doi.org/10.2307/1519843

Knafo, A., & Schwartz, S. H. (2010). Identity formation and parent-child value congruence in adolescence. *British Journal of Developmental Psychology, 22*, 439–458. https://doi.org/10.1348/0261510041552765

Kohlberg, L., & Kramer, R. (1969). Continuities and discontinuities in childhood and adult moral development. *Human Development, 12*, 3–120. https://doi.org/10.1159/000270857

Lee, J. A., Soutar, G., & Louviere, J. (2008). The best–worst scaling approach: An alternative to Schwartz's values survey. *Journal of Personality Assessment, 90*, 335–347. https://doi.org/10.1080/00223890802107925

Lönnqvist, J.-E., Jasinskaja-Lahti, I., & Verkasalo, M. (2011). Personal values before and after migration. *Social Psychological and Personality Science, 2*, 584–591. https://doi.org/10.1177/1948550611402362

Lönnqvist, J.-E., Jasinskaja-Lahti, I., & Verkasalo, M. (2013). Rebound effect in personal values. *Journal of Cross-Cultural Psychology, 44*, 1122–1126. https://doi.org/10.1177/0022022113480040

Lönnqvist, J.-E., Leikas, S., & Verkasalo, M. (2018). Value change in men and women entering parenthood: New mothers' value priorities shift towards Conservation values. *Personality and Individual Differences, 120*, 47–51. https://doi.org/10.1016/j.paid.2017.08.019

Maio, G. R., & Olson, J. M. (1998). Values as truisms: Evidence and implications. *Journal of Personality and Social Psychology, 74*, 294–311. https://doi.org/10.1037/0022-3514.74.2.294

Maio, G. R., Pakizeh, A., Cheung, W.-Y., & Rees, K. J. (2009). Changing, priming, and acting on values: Effects via motivational relations in a circular model. *Journal of Personality and Social Psychology, 97*, 699–715. https://doi.org/10.1037/a0016420

Milfont, T. L., Milojev, P., & Sibley, C. G. (2016). Values stability and change in adulthood: A 3-year longitudinal study of rank-order stability and mean-level differences. *Personality and Social Psychology Bulletin, 42*, 572–588. https://doi.org/10.1177/0146167216639245

Myyry, L., Juujärvi, S., & Pesso, K. (2013). Change in values and moral reasoning during higher education. *European Journal of Developmental Psychology, 10*, 269–284. https://doi.org/10.1080/17405629.2012.757217

Piaget, J. (1948). *The moral judgment of the child*. New York, NY: Free Press.

Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. *Psychological Bulletin, 126*, 3–25. https://doi.org/10.1037/0033-2909.126.1.3

Rokeach, M. (1973). *The nature of human values*. New York, NY: Free Press.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology, 25*, 1–65. https://doi.org/10.1016/s0065-2601(08)60281-6

Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values? *Journal of Social Issues, 50*, 19–45. https://doi.org/10.1111/j.1540-4560.1994.tb01196.x

Schwartz, S. H. (2005). Robustness and fruitfulness of a theory of universals in individual human values. In A. Tamayo & J. B. Porto (Eds.), *Valores e comportamento nas organizaç atoes* (pp. 56–95). Petrópolis, Brazil: Vozes.

Schwartz, S. H. (2007). Universalism values and the inclusiveness of our moral universe. *Journal of Cross-Cultural Psychology, 38*, 711–728. https://doi.org/10.1177/0022022107308992

Schwartz, S. H. (2013). *Human values. Chapter 4: Measuring values*. Bergen, Norway: European Social Survey Education Net. Retrieved from http://essedunet.nsd.uib.no/cms/topics/1/4/

Schwartz, S. H., & Bardi, A. (2001). Value hierarchies across cultures. *Journal of Cross-Cultural Psychology, 32*, 268–290. https://doi.org/10.1177/0022022101032003002

Schwartz, S. H., & Bilsky, W. (1987). Toward a universal psychological structure of human values. *Journal of Personality and Social Psychology, 53*, 550–562. https://doi.org/10.1037//0022-3514.53.3.550

Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., Harris, M., & Owens, V. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology, 32*, 519–542. https://doi.org/10.1177/0022022101032005001

Shrout, P. E., Stadler, G., Lane, S. P., McClure, M. J., Jackson, G. L., Clavél, F. D., … Bolger, N. (2017). Initial elevation bias in subjective reports. *Proceedings of the National Academy of Sciences of the USA, 115*, E15–E23. https://doi.org/10.1073/pnas.1712277115

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Sundberg, R. (2016). Value stability and change in an ISAF contingent. *Journal of Personality, 84*, 91–101. https://doi.org/10.1111/jopy.12142

Stern, P. C., Dietz, T., & Guagnano, G. A. (1998). A brief inventory of values. *Educational and Psychological Measurement, 58*, 984–1001. https://doi.org/10.1177/0013164498058006008

Thøgersen, J., & Ölander, F. (2002). Human values and the emergence of a sustainable consumption pattern: A panel study. *Journal of Economic Psychology, 23*, 605–630. https://doi.org/10.1016/s0167-4870(02)00120-4

Vecchione, M., Caprara, G., Dentale, F., & Schwartz, S. H. (2013). Voting and values: Reciprocal effects over time. *Political Psychology, 34*, 465–485. https://doi.org/10.1111/pops.12011

Vecchione, M., Schwartz, S. H., Alessandri, G., Döring, A. K., Castellani, V., & Caprara, M. G. (2016). Stability and change of basic personal values in early adulthood: An 8-year longitudinal study. *Journal of Research in Personality, 63*, 111–122. https://doi.org/10.1016/j.jrp. 2016.06.002

Vernon, P. E., & Allport, G. W. (1931). A test for personal values. *Journal of Abnormal and Social Psychology, 26*, 231–248. https://doi.org/10.1037/h0073233

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Carolin Schuster
Institute of Psychology
Leuphana University Lüneburg
Universitätsallee 1
21335 Lüneburg
Germany
carolin.schuster@leuphana.de

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