Personality Stability:

The Question of Continuity

Josef Faber

Psych 370 AB2

University of the Fraser Valley

Abstract

This paper reviews literature that used data from several different international longitudinal studies. The question of personality stability is addressed in each paper using different types of connections each using different lengths of time between data point collection. Most personality traits were shown to be very stable over short periods of time; however, the longer the period of time between measurements, the less stability there appears to be. This may indicate that personality changes may be obscured by the short periods of data collection. The lack of consensus shows the necessity of further research to work out how potential errors and confounds may be being introduced within the data that is affected outcomes. For instance, questions asked 30 years ago often do not match those asked today which can result in a lack of proper measurement of the Big Five personality traits. There is also a problem of attrition in longitudinal studies that leads to a bigger question: Do those who are left within the studies still represent the broader population? This potential lack of representation could be leading to results that are not representative of the general population.

Personality Stability

The stability of personality traits over the lifetime is an ongoing question that has been studied for decades. Much of the literature has shown that there are strong connections between traits in youth and old age, but there is also data that conflicts with this premise. There may be connections to well-being, health and values that can affect the stability of those traits. When looking for stability within personality traits, the focus is on how well the initial reporting reflects in the subsequent reporting later on in life. Not only the comparison to others over time but also the relative stability of the trait within the individual. This paper looks at the stability of the Big Five (Goldberg, 1993) personality traits: Openness (degree of openness to new experiences), conscientiousness (degree of reliability), extraversion (how outgoing they are), agreeableness (degree of compassion) and neuroticism (how emotionally stable they are), together and separately, and how each of these traits varies, if at all, from youth to old age. Each of these may also be connected to the overall sense of well-being, which may also affect their levels. Some of the inherent flaws of longitudinal studies within personality psychology are taken into consideration. The connections between individual traits and values, cognitive decline, and our sense of well-being may all have bi-directional effects on personality. How each of these affects the overall stability of personality traits is reviewed therein.

Literature Review

Aschwanden, Martin, and Allemand (2017) looked at the connections between cognitive abilities and personality traits over a four year span. They used measurements of memory, processing speed, reasoning, verbal knowledge, verbal learning and working memory and how each of these may be connected to three of the Big Five traits: Openness, conscientiousness and

neuroticism. This was done in the context of how stable the three personality traits were over

four years in conjunction with the levels of cognitive ability. They hypothesized that there would

be a bi-directional association between cognitive abilities and each personality trait. Where

cognitive ability may affect personality traits and personality traits may, in turn, affect cognitive

abilities. They hypothesized that openness and conscientiousness would be mildly positively

correlated with cognitive functioning and neuroticism negatively correlated.

Aschwanden et al. (2017) used data from the Zurich Longitudinal Study on Cognitive

Aging (ZULU), which is an on-going study of cognitive functioning in older adults. They used

236 (46.2% female; M = 74.12 years, SD = 4.40) of the original 335 participants. The first of the

three waves was not included as it did not include any personality data. The measurements used

to gather the cognitive data involved 10 cognitive tasks. For memory, three tasks were involved;

first using the Wechsler Memory Scale-Revised (WMS-R; Härting et al., 2000) and the Munich

Verbal Memory Test (MVGT; Ilmberger, 1988), a story recall test using another section of the

WMS-R, and lastly a picture recall test using the Nuremberg Age Inventory (NAI; Oswald &

Fleischmann, 1999). Measuring processing speed involved three tasks as well; first a comparison

task using 60 items, an identical pictures task with 60 items and lastly a letter digit substitution

task with 75 items. Measuring reasoning involved a standard progressive matrices task with 24

items. Verbal knowledge was assessed with a 37-item task from the German vocabulary test

(MWT; Lehrl, 1999). Verbal knowledge used five trials consisting of 27-items each time, each

using unrelated but meaningful words taken from a manual of German word norms (Hager &

Hasselhorn, 1994). Working memory was assessed with a reading span task. The personality

traits were assessed using the NEO-Five-Factor Inventory (NEO-FFI; Borkenau & Ostendorf,

1993) and were rated on a 5-point Likert-scale ranging from "strongly disagree" (1) to "strongly

agree" (5). The NEO-FFI measured openness, neuroticism and conscientiousness with alphas of 0.74 for openness, 0.78 for conscientiousness and 0.82 for neuroticism.

The results of the study showed relatively high stabilities in both cognitive abilities and personality traits with a small but significant connection between reasoning and openness and conscientiousness and verbal knowledge. The link between reasoning and openness was seen as bi-directional as Aschwanden et al. (2017) state that those with lower reasoning abilities are less open while those higher in openness may be explorative, thus more likely to enhance their reasoning skills. The verbal knowledge-conscientiousness link may be due to the fact that as people age and their cognitive abilities become impaired, people become more conscientious to cope with the loss.

The stability of cognitive abilities appears to be consistent with those who have low and high cognitive reserve as they both decline at the same rate. Aschwanden et al. (2017) noted that processing speed tended to slow down over time and neuroticism tended to increase, a slight surprise as most studies show a decrease of neuroticism in older age, although they think this may be due to the ages of the participants, as neuroticism may increase prior to it decreasing in later years.

Generally, the results did not meet the expectations of the authors. They had expected at least weak correlations between cognitive abilities and personality traits, but virtually none were found. They attribute this to a lack of "distinction between maximal and typical cognitive processes and personality-related experiences and behaviours" (Aschwanden et al., 2017, p. 210). In other words, there needs to be a distinction between participants who recognize the changing cognitive decline and want to slow its progress as opposed to those who do not, to

determine if the connection is stronger in the latter group compared to the former. Some of the issues they had were a small sample size and attrition. Those who were left (70% of the original participants) continuing in the study tended not to have the same traits and cognitive abilities as those who were able to take part in all three waves; this combined with the small sample size makes it difficult to generalize.

Furnham and Cheng (2019) used a larger sample size in their study by using data from the British Household Panel Survey (BHPS) which included 7,554 participants, ranging in age from 16 to 92 (56% female; $M = 39.3$, $SD = 11.9$). The BHPS had an interesting advantage over many other surveys in that it had data on a large array of age groups in two separate waves, one in 2005 and another in 2011. The six year gap was modest compared to other surveys, but it allowed for a length of time that could highlight potential changes in personality. Furnham and Cheng (2019) hypothesised that agreeableness, conscientiousness, extraversion and openness would significantly increase and that neuroticism would significantly decrease between measurements. However, they also thought that traits would remain relatively stable over time. Lastly, they thought that the spike in hormones in the youngest age group would show an increase in neuroticism instead of a decrease.

The participant's personality traits were assessed using a 15-item version of the Big Five Inventory questionnaire (BFI, John, Naumann, & Soto, 2008) which was divided evenly between each trait. They rated each item on a 7-point Likert-scale ranging from "does not apply" (1) to "applies perfectly" (7) with alphas ranging from 0.55 for extraversion, to 0.71 for neuroticism.

Furnham and Cheng (2019) found support for the first part of their hypothesis with a small but significant increase in agreeableness, conscientiousness and extroversion and they also

saw a decrease in neuroticism for all age groups. They could not, however, confirm an increase in neuroticism for those 16-20 years old, which saw little to no change. Another component that was not supported was openness, which actually decreased over the same time period for all groups. When the participants were broken down into different age groups, the data showed that those who were 16-20 years old and 41+ years old had stability in openness whereas those in the 21-40 year range saw some low to moderate increases. They were also unable to find stability differences between younger and middle age groups and older age groups, as there were some similarities and differences found in all age groups. With much of their data supporting no statistically significant changes, they show that personality traits tend not to differ very much when measured on a time scale of less than 10 years, regardless of age. An analysis indicated that there was no statistically significant change in any personality trait from the first to second waves. This suggests a fairly strong case for personality stability when measured over six years.

One rather large issue with this study is pointed out by Furnham and Cheng (2019), which is the shorter, less reliable assessment tool that the BHPS used when measuring the Big Five traits. The less reliable data may have obscured results, leading to an inability to determine if changes occurred within the study.

Fetvadjiev and He's (2019) study used a more reliable measurement tool within their dataset as they examined personality and its potential connection to values. They were looking to determine if traits or values where more stable and which is more predictive of the other: traits or values. To answer these questions they contrasted two frameworks of personality interrelations: The Five-Factor Model (FFT; McCrae & Costa, 2008; Mõttus, 2017), which states that basic traits are stable throughout life and that those traits influence values; and the neosocioanalytic theory (NST; Roberts & Nickel, 2017; Roberts & Wood, 2006), which takes another approach by

stating that there are no basic traits or values and that they are both equally determined by genetic and environmental factors with no causal factors involved between traits and values.

Fetvadjiev and He (2019) looked at the Longitudinal Internet Studies for the Social Sciences (LISS) panel study of 11,890 participants, five waves in total, from the Netherlands over eight years. To assess these personality traits they used 50-items from the International Personality Item Pool (IPIP; Goldberg et al., 2006), divided evenly amongst each Big Five trait. They used a 5-point Likert-scale ranging from "very inaccurate" (1) to "very accurate" (5) with alphas of 0.87. They assessed values using the Rokeach Value Survey (RVS; Rokeach, 1973) which used 36 items on a 5-point Likert-scale ranging from "extremely unimportant" (1) to "extremely important" (5). The RVS assessed both preferred modes of behaviour and desirable end-states of existence. For example they measured enjoyment and maturity within the RVS.

The resulting data showed that traits were more likely to be stable over time than values and that traits were more likely to predict values than values were to predict traits. They found that all of the Big Five traits were stable over the eight year span, with very little deviation between each wave of measurement. These findings supported the FFT slightly more than the NST; however the relation was relatively weak as the FFT is supposed to be unidirectional but some of the data showed values could affect traits. There wasn't strong support for the NST either, as there was inequality in the relationship between values and traits. With the results conflicting with both frameworks the authors suggest an amalgamation of both theories to build a more cohesive and encompassing model. Traits may have a stronger influence overall, but values are also seen as quite stable and can have an effect on traits in some circumstances. Thus, although their study showed stability in both traits and values, a review of the models may be in order to build a better working model of this relationship. Both traits and values retained much of

their initial measurements which showed support for the idea that personality traits are quite stable, especially over an eight year span of time.

Elkins, Kassenboehmer, and Schurer (2017) also looked over an eight year span when they used representative data from the Household Income and Labour Dynamics in Australia (HILDA) survey using 1,161 individuals from the original 19,914. There were three waves of assessment but because of attrition (e.g. unable to contact, moved, death), only 1,161 provided continuous data. They were looking to answer several questions, with two relevant to this review: Do traits change over eight years and how, if at all, one-off and high-frequency life events affect personality. At the start of the study the participants were 15-24 years old and provided data that determined mean level personality changes, reliability of those changes and life events that were either one-off or continuous (described below).

The study assessed the Big Five personality traits using a 36-item inventory (Goldberg; 1992 & Saucier, 1994) that was rated on a 7-point Likert-scale ranging from "not at all" (1) to "very well" (7) with alphas ranging from 0.75 for openness to 0.79 for neuroticism. Each item was an adjective that the participants rated to be like them or not. Eight of the items used within this test were discarded because of low internal consistency. There was also an assessment of locus of control using the Psychological Coping Resources (PCR; Pearlin & Schooler, 1978) inventory which determined where the participant placed control in their life, either internally (they have control over events), or externally (they have little to no control over events). They were asked seven questions which they rated on a 7-point Likert-scale ranging from "strongly agree" (1) to "strongly disagree" (7) with alphas of 0.85.

The results of their study showed there to be relatively high Big Five consistency from each data point. They state that participants became weakly, but statistically significantly, more agreeable, emotionally stable and somewhat less extraverted. They also state that locus of control becomes more internal over time. There was some mean level change seen in the younger years and that change approached zero as the participants neared 20 years old except for conscientiousness and neuroticism in women. These two traits continued to increase throughout the eight years.

They also saw another gender difference in 18-24 year olds where males saw an increase in openness and females declined. Their results do not replicate those of previous studies in this area and Elkins et al. (2017) attribute this to some individuals increasing in a certain trait, while others decrease in that trait, thus, showing much smaller changes than may actually exist. When they looked at one-off and continuous life events and compared them to personality trait changes, they found that one-off events generally do not predict changes in personality except in experience, agreeableness, and conscientiousness. Participants that were married, a continuous event, saw a decline in openness to new experience; participants who retired from the work (a one-off event) force due to having a child were less conscientious; and participants who had a family member sent to jail, also a one-off event, had a significant reduction in agreeableness which may be due to society being seen to be acting in an unfair manner. Other than these three situations, there seems to be no correlation between one-off life events and personality changes. Elkins et al. (2017) theorize that this may be due to adapting to new situations or a lack of intensity of exposure to an event, which is also true for continuous events. Most do not predict any personality change with the exception of being fired three or more times where those who

experienced that event saw an increase in their level of neuroticism, although the sample (N= 27) was quite small.

There was a stronger connection between health issues and locus of control when those who experienced long term pain saw more of a shift towards external locus of control. Overall they determined that there were small to moderate changes in personality traits and in locus of control over the eight year time span with the expectation of conscientiousness, which they connect with executive function development. Their results show that personality traits are quite stable over eight years and that life events have very little impact on personality. Some of the issues that they had to deal with were the lack of correlation to other assessment modes and the lack of data points of unusual life events that resulted in a lack of power in their results.

Blatný, Millová, Jelínek and Osecká's (2015) study took a slightly different approach to life events by looking at the connection of well-being to personality and which personality traits may closely correlate with well-being, either in a causal or reactionary manner. Most of the research has only tested if well-being is correlational in nature and not casual, thus lacking the ability to address the potential of well-being affecting personality. Blatný et al. (2015) posit that the temperament of the person (described below) is an important indicator of well-being later on in life, as it sets the groundwork for how people's personalities develop.

They used data from a longitudinal study in the Czech Republic done between 1961 and 1984 (N = 557). Due to a lack of attendance from a follow-up request, the number of participants used was 83 (female = 57.8%; M = 39.7 years). The initial assessment of temperament was done by examiners when the participants were between 12-30 months old. The examiners used standardized observer ratings to measure positive emotional expressions, general activity, and

conformity, as well as several other aspects. They based each rating on a 5-point Likert-scale reflecting the intensity of the behaviour. At age 16 they used the Maudsley Personality Inventory (MPI; Eysenck, 1959) to measure extraversion and neuroticism which had an alpha of 0.68. There were two more assessments taken in adulthood at ages 40 and 50 years old with alphas of 0.73 for extraversion and 0.77 for neuroticism. Both times they used the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1964), NEO-FFI, and several others to gauge extraversion and neuroticism. The EPI used 24-items for each category with yes/no responses available. The NEO-FFI questionnaire measured the Big Five personality traits, each one having 12-items on a 5-point Likert-scale. The other assessments used also contributed to their data in a more narrative way, allowing for an autobiographical recreation of their lives that made connections to life events and job status.

Their results indicated that extraversion in adolescence and disinhibition in childhood contributes to well-being in adulthood. They also determined that neuroticism was negatively correlated with life-satisfaction, self-esteem and self-worth. One small discrepancy they found was the trait of agreeableness correlated with well-being quite well at age 50 but did not do so at age 40. Blatný et al. (2015) state that one potential reason for this discrepancy could be the decrease in anger and anxiety towards negative life events as people age. They were able to determine that some of the traits that were seen in childhood were predictive of future traits, specifically extraversion, which was positively correlated with well-being in later life. It was unclear if they were able to prove their hypothesis as they did not clearly state it within their paper.

The small sample size and the participants themselves make the results of this study hard to apply more broadly. Those who remained within the study could represent a subset of

individuals that are more likely to respond and have traits that are unique and thus, less generalizable.

Wagner, Lüdtk, and Robitzsch (2019) were looking to avoid the sample size issue by using two large test groups, one from Germany, the other from Australia. Wagner et al. (2019) assessed whether personality traits became more stable over time, basing this on the cumulative continuity principle (Caspi, Roberts, & Shiner, 2005), which states that personality becomes more stable as we age and gain experience. They argue that retest correlations are not able to capture the changes or stability within individuals in an accurate manner. To get around this issue, they chose to use two large studies, each with three waves, to separate stable factors in individual's lives from partially stable factors, such as relationships or careers. They suggest that personality stability also includes fluctuations as both stable and partially stable life factors are at play. They used two models of comparison in their paper to support their hypothesis that most personality differences are due to completely stable factors and that each trait may differ from one to the next. The methods used were the standard retest correlations modelling and the Trait-State-Occasion (TSO; Cole, Martin, & Steiger, 2005) model that incorporates stable traits, latent states, and occasion-specific factors.

The first study used data from the German Socio-Economic Panel (GSOEP) that included 9,013 participants. The other was the HILDA study which was also used in Elkins et al.'s (2017) study, although Wagner et al. (2019) used a different dataset of 6,012 individuals in their study. In the GSOEP, participants from selected households were asked to participate in a longitudinal study that started in 1984 and is still on-going on a yearly basis. Three out of the 32 waves conducted were used from 2005, 2009 and 2013. They only included individuals who participated in all three waves between the ages of 18 and 80 (female = 52%; M = 47.44 years,

SD = 14.95). They measured personality by way of a 15-item shortened version of the BFI (Lang, John, Lüdtke, Schupp, & Wagner, 2011), evenly divided into each of the Big Five traits. It was scored on a 7-point Likert-scale ranging from "does not apply" (1) to "does apply" (7) with alphas ranging between 0.48 for agreeableness to 0.66 for openness.

The second dataset used data from the HILDA survey that included participants ranging in age from 18-80 years old (M = 44.77 years, SD = 14.69). The three waves also taking place in 2005, 2009 and 2013. They measured personality using a 36-item adjective list (Lucas & Donnellan, 2009), evenly divided into each of the Big Five traits (eight for extraversion). It was scored on a 7-point Likert-scale ranging from "does not describe me at all" (1) to "describes me very well" (7) with alphas ranging from 0.73 for openness to 0.81 for neuroticism and conscientiousness.

Based on latent test-retest correlations Wagner et al. (2019) concluded that there was considerable stability within personality traits in both the GSOEP and the HILDA studies. They also state that there was more stability seen in the HILDA survey than the GSOEP. There is one exception in the first study where conscientiousness may be more occasion-specific than stable over the lifespan. This suggests that conscientiousness may be more open to change through the lifespan than the other personality factors, although the HILDA survey did not support this finding. Even though occasion-specific changes in personality are shown to shift from one data point to the next, they are generally stable over time. Their findings did show that agreeableness was less consistent, which may mean that it is more susceptible to environmental changes than the other personality traits. Individuals may have a core set of personality traits that underlie their personality, but they can be offset and moulded based on circumstantial and environmental changes. The predictability of some of the personality traits also appears to differ in early and

late adulthood, with extraversion being a good early adulthood indicator whereas openness and

consistency were higher for later adulthood. The notion that our personalities are fixed after the

age of 30 was not supported in this study, as indications point to the greatest stability occurring

in the 40-50 year range, however, beyond that, more instability appears likely. The two studies

had slightly different results in that regard, so further research is needed.

There were some underlying issues with the two studies, such as the items on the

questionnaires in the GSOEP which pertained to neuroticism leaned more towards anxiety

whereas the HILDA leaned more towards emotional instability. This could account for the

differing results between the two studies. Replication of these results is required for further

verification and longer intervals between re-test may be needed.

To counteract a potential issue with a short test re-test interval, Damian, Spengler, Sutu

and Roberts (2019) looked at two long term studies. They hypothesised that because of the large

time span of the studies they used and the young age of the first assessment, there would be less

stability compared to previous studies. The younger age and longer span of time of the study

would also mean that roughly 20% of the participants would show reliable changes in personality

traits. Lastly, they predicted that people would become more agreeable, conscientious,

extroverted and emotionally stable based on the assumption of plasticity as people gain

experience. They used two different studies, a longitudinal and cohort study, to validate the

second wave of the Project Talent Personality Inventory (PTPI, Pozzebon, Damian, Hill, Lin,

Lapham, & Roberts, 2013), as the questionnaire that was given the second time was an

abbreviated form of the survey. The two different studies used the short form of the PTPI and

showed some variation in some items. These variations were accounted for in the main study and

compensated for accordingly. This allowed for better measurements in the main study and a more robust conclusion.

Damian et al. (2019) collected data from a subsample of the PTPI which took place over a 50 year span. It started in 1960 and assessed over 440,000 students in grades 9-12. 50 years later 1,795 participants responded to the request to participate once more. The dataset included a fairly even split of women to men with the first wave having an average age of 16 and 67 in the second. The survey used in the first wave included 108 items classified into 10 different categories (the corresponding Big Five traits are noted in brackets): calmness and self confidence (neuroticism); mature personality, tidiness and impulsiveness (conscientiousness); culture (Openness/Intellect); sociability, leadership and vigour (Extraversion); social sensitivity (Agreeableness). The items were rated on a 5-point Likert-scale ranging from "not very well" (1) to "extremely well" (5) with alphas ranging from 0.62 for conscientiousness to 0.92 for neuroticism. The second wave survey used a shorter version of the PTPI with the same categories but half as many items in each with alphas ranging from 0.53 for conscientiousness to 0.89 for neuroticism. The lower alphas reflect a lowered reliability of the shorter test.

They found that, although there is general consistency within personality traits from the first to the second wave, 97.9% of the participants showed change in at least one category. They stated that this change was consistent with the maturation hypothesis, which states that "normative changes in adulthood are driven by biological processes that are likely a result of selective pressures, in the evolutionary sense, for the accentuation of traits that facilitate caring for offspring" (Donnellan, Conger, & Burzette, 2007). Thus, although these are in fact changes, they are relatively stable as they are a product of maturation. The traits that showed the most change were agreeableness, conscientiousness and emotional stability. The changes were shown

to be higher in the same categories as other studies but correspondingly higher, which matches the longer time frame. This suggests that changes are cumulative over time within each of the personality traits. Their findings support their first hypothesis that most people showed consistency within their personality traits in line with maturation. One of the key shortcomings of this study was the shortened version of the PTPI that was given to the participants in the second wave which made direct comparison difficult, affecting the reliability of the results.

The longest study within this review was done by Harris, Brett, Johnson and Deary (2016) who used data from the Scottish Mental Survey (SMS). The SMS assessed 70,805 children in Scotland in 1947 (M = 10.9 years). Harris et al. (2016) contacted 174 participants (52.9% female; M = 76.7 years) from the 6-Day Sample which is a representative sample of the SMS that received further assessment. Those contacted in 2012 received the same test they did in 1947. The participants also had someone they knew rate them on the same scales that their teachers rated them on in 1947. Harris et al. (2016) hypothesized that those who were rated as dependable in older age would have higher ratings of well-being in old age with weaker correlations to high dependability ratings in their youth.

The 6-Day Sample was assessed on intelligence, personality and well-being. In the first round of assessments, they assessed IQ using the Terman-Merrill Stanford-Binet Test (SB IQ; SCRE, 1947) and the Moray House Test No. 12 (MHT IQ; SCRE, 1933). They were also rated on six personality characteristics by their teachers, which included self-confidence, perseverance, stability of mood, conscientiousness, originality and desire to excel. The teachers rated the students on a 5-point Likert-scale ranging from "severely lacking" (1) to "strongly displaying" (5) the characteristic. The six characteristics did not represent the Big Five, but were highly correlated with each other and were closely related to what Harris et al. (2016) call

dependability, a measure closely related to conscientiousness. No other Big Five traits were

observed in the original assessment.

In the telephone follow-up study participants were rated on several different metrics,

which included: the same personality questionnaire given in 1947; International Personality Item

Pool (IPIP, Goldberg, 1999); Warwick-Edinburgh Mental Well Being Scale (WEMWBS,

Tennant et al., 2007); Satisfaction with Life Scale (SWLS, Diener, Emmons, Larsen, & Griffin,

1985); National Adult Reading Test (NART, Nelson & Willison, 1991); and Raven's Standard

Progressive Matrices (RSPM, Raven, 1938). The IPIP used a questionnaire to measure very

similar measures to the Big Five and consisted of five scales, each with 10 items measuring each

trait. They used a 5-point Likert-scale ranging from "very inaccurate" (1) to "very accurate" (5)

with alphas ranging from 0.74 for extraversion to 0.84 for neuroticism. The WEMWBS asked

participants to rate themselves on their positive feelings over the previous two weeks on a 14

item questionnaire. This was also rated on a 5-point Likert-scale ranging from "none at all" (1) to

"all the time" (5). The SWLS consisted of several questions about life satisfaction that they were

asked to rate on a 7-point Likert-scale ranging from "strongly agree" (1) to "strongly disagree"

(7). The NART was assessed using 50 irregular words on a list that they were asked to

pronounce over the telephone. The RSPM looked at nonverbal reasoning using several sets of

progressively difficult problems they were asked to solve. The amount of correctly answered

questions reflected their cognitive ability.

After removing three participants based on the potential for dementia, the results of the

study showed that there were little to no statistically significant correlations of dependability

between the participants in their youth and older age. When Harris et al. (2016) adjusted for rater

effects they were able to see small effect sizes for stability of moods and conscientiousness. They

also found that older age self- and other-ratings of dependability were correlated to conscientiousness and well-being. It appears as though personality and IQ were also related throughout the life span as IQ in childhood reflects dependability in adolescence which also predicts dependability in older age when assessed by others. Based on the fact that IQ appears to be related to personality and that stability of moods and conscientiousness were the only two that saw some stability, Harris et al. (2016) theorize that IQ may contribute to that stability.

Overall most of their hypotheses were not supported as they could not determine statistically significant results of stability for most personality traits over the 63 years. They concluded that this may be due to declines in physical and cognitive abilities or possibly to the young age at which they were originally rated, which may indicate that they may have matured later on into adolescence. Based on their results they state that personality tends to gradually change over the lifespan which can accumulate into a rather large change when taken all together.

Some of the limitations within this study were the small sample size, and the sample itself. Those who did participate were only a subset of the 6-Day Sample as many had passed away and others did not respond. This left participants who were more dependable and more intelligent in comparison to the original sample. This is an issue that could lead to less of an ability to generalize the results. The last major issue with this study is stated by the authors: "the longer the interval between two assessments of personality, the weaker the relationship between the two tends to be" (Harris et al., 2016). The length of time between the two assessments could be one reason why so much change was found within this study.

Conclusion

This review considered research that collected data between four to 63 years. The shorter the time spans between assessments the more stable personality traits tended to be. Each of the Big Five traits differs slightly from one another in how stable or variable they were, but all appeared to change gradually from youth to old age. This gradual change can become quite significant when viewed in totality, but the changes may not necessarily reflect personality instability. The fact that stability is so evident in shorter spans of time may indicate segments of life that represent more stability and others that represent more change. Elkins et al. (2017) showed that there is not much change in most personality traits between the ages of 15-24, which may indicate a time of solidification of many of the traits. Most research within an eight year time span shows high stability of most traits which may also indicate that most changes are too subtle to see in shorter periods. This may be why there is such a large change seen in the research by Harris et al. (2016), who used data points spanning over 60 years. Their research appears to support the maturation hypothesis that is discussed in Damian et al.'s (2019) research, which also saw changes over the lifespan. The different lengths of time used in each study seem to contradict each other, but if the changes are viewed from the perspective of maturation, it can be said that, although there may be differences from youth to old age, they are changes that are reflected as maturity throughout the years. The changes are stable in that they show a growing understanding of self that is consistent through each person's lifetime.

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