

Chapter 7. Results from a Preliminary Investigation of Dependency in Caregiving Contexts

This chapter describes an empirical study of personality and dependency in caregiving contexts which I conducted from May, 1997 to July, 1998. First, an overview of the recruiting and interview procedures used in the study is presented, followed by a description of the sample. Then, mean level scores of each personality dimension across three caregiving settings are described. Whenever possible, comparisons with norms and/or the scores obtained from a student sample are also presented. Bivariate correlations are used to identify relations between personality variables and the two major outcomes, social dependency and morale. In conclusion, a regression analysis of sociodemographic, environmental, and personality variables on these outcomes is also presented.

1. Sample Selection

Both elderly care recipients and professional caregivers were recruited for the present study.

1.1 Elderly Care Recipients

Two institutional and three homecare providers were engaged for the study. The institutional care providers were both large, multistoried facilities serving circa 200 persons, located in the same city district of Heidelberg, Germany. Each had a skilled geriatric nursing ward on the first and second floors, as well as residential facilities on the third, fourth, and fifth floors of the building. The residential units differed from the geriatric units in that the former were generally larger and had kitchen amenities.

The three homecare providers served central areas of Heidelberg and Mannheim. Virtually all of the elders receiving homecare services lived in residential neighborhoods within easy reach of the public transportation system. Two of the homecare providers employed a considerable number of untrained personnel -- often young men fulfilling civil service requirements -- who assisted elders by housecleaning, running errands, and the like.

Most of the respondents in the present study were preselected by the care provider. That is, care personnel made a list of the elderly care recipients being served and recommended

persons who would be suitable candidates (i.e., had no significant cognitive impairment, were likely to be willing to be interviewed for a research project). Potential participants were then recruited by the experimenter personally. One of the nursing homes, however, placed no such restrictions upon sample selection. Of the 146 institutional residents contacted, 59 (40%) refused to participate and 14 (10%) were unable to complete any significant portion of the assessment. Of the 61 recipients of homecare services contacted, 17 (28%) refused to participate and three (five percent) were unable to complete any significant portion of the assessment. The final sample thus consisted of 73 persons living in institutions and 41 living at home, for a total of 114 elderly care recipients. Every respondent was given a bouquet of flowers in appreciation for his or her participation in the study.

1.2 Professional Caregivers

As described above, professional caregivers were needed in order to rate each care recipient in terms of physical and social dependency. The head of the nursing station or homecare delivery service, as well as one other caregiver, were recruited for this purpose. Efforts were made to ensure that the caregivers were trustworthy observers of patient behavior. Thus, in order to be eligible to participate in the study, each caregiver had to fulfil the following criteria:

- 1) have several years of professional experience
- 2) currently be providing care to subject
- 3) be well-acquainted with the subject

The caregivers selected for the study were then briefed on the use of the *Activity of Daily Living* scales and the *Social Dependency* rating scale either collectively or individually. In particular, questions regarding what is meant by social dependency were addressed at this time. Furthermore, each staff participant was instructed to complete the rating forms individually and confidentially, a prerequisite for testing interrater reliability.

For various reasons, untrained personnel were not allowed to complete the rating scales, reducing the sample size by 11 cases.

Each caregiver received DM 5 (about \$2.50) for every subject they were asked to assess. (Usually, caregivers rated between 5 and 15 subjects, a task which seldom took more than an hour to complete.)

2. Interview Procedure

The interview consisted of sociodemographic data (age, gender, educational background, duration of residence in the facility, if applicable) as well as tests and scales in the following order:

Table 13. Instruments Used in the Main Study

<u>Newly Designed Instruments</u>	
1. Stoicism Scale	8 items
2. Caregiver Affiliation Scale	12 items
3. Respect for Medical Authority Scale	12 items
<u>Standardized Scales</u>	
4. Deutsche Personality Research Form (PRF-13 Succorance)	16 items
5. Deutsche Personality Research Form (PRF-2 Affiliation)	16 items
6. Respect for Unspecific Authority	8 items
7. Philadelphia Geriatric Morale Scale	17 items
Total	89 items

All of the assessment procedures employed in the main study, including the behavioral rating scales, are reproduced in the **Appendix**.

Interviews were conducted in person, and items were read aloud. The assessment lasted between 30 and 60 minutes, depending upon the subject's general state of health. As expected, many of the respondents were very frail. A half hour interview was simply too strenuous and fatiguing for some, especially those living in institutional environments. A shortened version of the interview (typically excluding some of the *PRF* items) was

administered to 11 persons. Other problems (e.g., interruptions, refusals to answer certain questions) required shortening the interview in another six cases.

3. Sample Description

This presentation of results begins with an overview of the study sample in terms of age, gender, education, and functional health (*ADL* score, **Table 14**).

Table 14. Description of the Study Sample

Caregiving Context	Number	Age	Gender	Education	Functional Health
Nursing Home	43	84.7 (8.2)	11.6%	53.9%	4.0 (5.1)
Skilled Geriatric Nursing Facility	30	84.3 (7.9)	26.7%	50.0%	14.8 (5.6)
Private Household	41	79.4 (8.2)	19.5%	40.0%	10.4 (7.4)
Total	114	82.7 (8.4)	18.4%	47.7%	9.2 (7.5)

Gender = percentage of men

Education = percentage with high school diploma

Physical Dependency = *ADL* / *IADL* score
(Standard deviation in parentheses.)

The sample consisted largely of women, which is not unusual in studies of individuals in advanced age. The subsamples drawn from each caregiving context were largely the same in terms of gender (Chi-square test=2.71; $p = ns$) and years of education (F-value=0.77; $p = ns$). Physical dependency, as expected, was highest in the skilled nursing facility, and lowest in the nursing homes, which were largely residential and only provided help as needed (F-value=27.7; $p < .001$).

There were further differences, however, between subsamples. The elderly living in private households were more than five years younger than their institutionalized counterparts (t-value=-3.24; $p < .01$). There were also clear gender differences: women were, on average, four and a half years older than men (t-value=2.25; $p < .05$), but had better health, scoring 5.6 points higher on the *ADL/IADL* scale (t-value=-3.17; $p < .01$).

A brief explanation of these differences is necessary in order to fully understand the effect of sociodemographic variables on personality in later sections of this analysis:

- 1) The trend toward homecare is relatively new, which might account for the age difference between care recipients in different contexts. Because homecare services were simply less available, older individuals had little choice but to move to a nursing home when they became dependent on personal assistance.

- 2) The observed gender differences in age and functional health are somewhat harder to explain. Although women live longer than men, men generally enjoy better functional health, especially in advanced age. For example, in seven studies of care among the very old, consistently lower percentages of men over 80 years required care, compared to women (Wahl, 1992).

Naturally, these differences in age and level of functioning must be kept in mind when interpreting the effect of gender on personality measures.

Comparisons with data from the Berlin Aging Study (BASE; Lindenberger, Gilberg, Pötter, Little & Baltes, 1996) show the present sample to be roughly representative of the elderly living in Germany today, at least in some respects. The 516 participants in BASE (intensive assessment subsample) were, on average, 84.9 years old and had 10.8 years of education. In comparison, the subjects employed in the present study were 82.7 years old and had 10.0 years of education.

Differences with the BASE sample are also evident, however. Only 14.5% of the BASE respondents were nursing home residents, compared to 64% of the respondents in the present study. Certainly, one can assume that functional health (ADL score) was poorer in the present sample, which, unlike the BASE sample, consisted solely of care recipients.

3.1 Control Variables

An important control variable in the study was the caregiver's familiarity with the care recipient (**Table 15**, below). Familiarity with one's caregiver might influence social dependency -- those who have known their caregiver for some time, for example, might find it easier to turn to them for companionship or emotional support. Furthermore, inhome care providers might not know their clientele as well as nursing home staff. For these reasons, it is

imperative to ensure that nursing staff in each setting are equally familiar with the elderly persons in their care.

Table 15. Familiarity with Care Recipient

Caregiving Context	How long have you known the care recipient?	How well do you know the care recipient?*
Nursing Home or Facility	21.4 months (16.6)	2.1 (.40)
Private household	17.9 months (14.7)	1.9 (.53)
Total	20.2 months (16.0)	2.0 (.50)

* Rating on a 4-point scale: 1 = very well to 4 = hardly.
(Standard deviation listed in parentheses.)

As **Table 15** shows, caregivers generally have known their charges for quite some time. Moreover, caregiving professionals working in institutional care and in homecare settings were equally familiar with the elderly persons in their care. Neither objective measures ("How long have you known the care recipient?") nor subjective measures ("How well do you know the care recipient?") produced significant differences between caregiving contexts.

4. Descriptive Results

In the following, descriptive data is presented regarding the following six personality constructs:

- 1) succorance;
- 2) stoicism;
- 3) affiliation;
- 4) caregiver affiliation;
- 5) respect for unspecific authority;
- 6) respect for medical authority;

as well as two outcomes:

- 1) social dependency;
- 2) morale;

Mean scores for each variable are differentiated according to the context of caregiving, i.e., skilled geriatric nursing facility, residential facility, and private household. When reviewing the descriptive data, one must bear in mind the level of functioning associated with each context, which is somewhat counterintuitive: The elderly in skilled nursing facilities require the most support, followed by those living in private households. The elderly living in residential facilities, on the other hand, were largely autonomous and required relatively little help.

Whenever possible, comparisons are drawn between the study sample and official norms. Comparisons with younger samples are used in some instances to illustrate cohort effects.

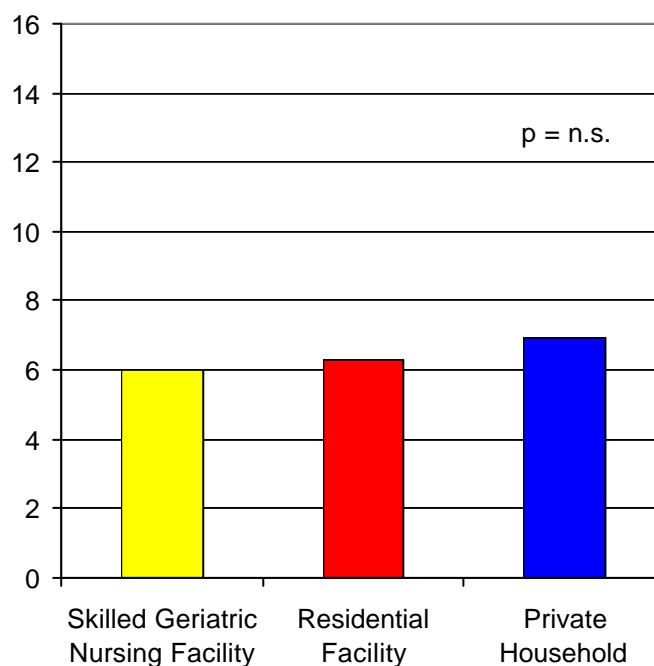
4.1 The Dependent Personality

Both succorance and stoicism reflect aspects of the dependent personality. Whereas succorant individuals seek help and advice, however, the stoic individual is likely to eschew it.

4.1.1 Succorance

Mean scores on the *Succorance* scale are depicted in **Figure 6** (below).

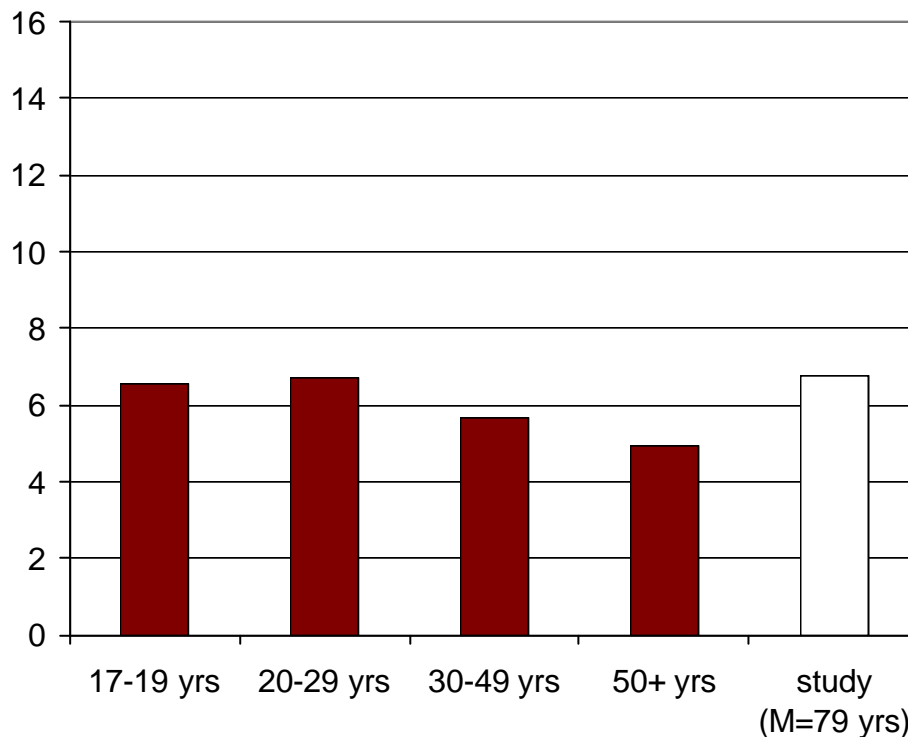
Figure 6. Mean Succorance Scores by Setting



Succorance was highest in the skilled nursing facility, but this difference was hardly significant (F-test; $p = ns$). Succorance also did not vary according to gender (t-test; $p = ns$).

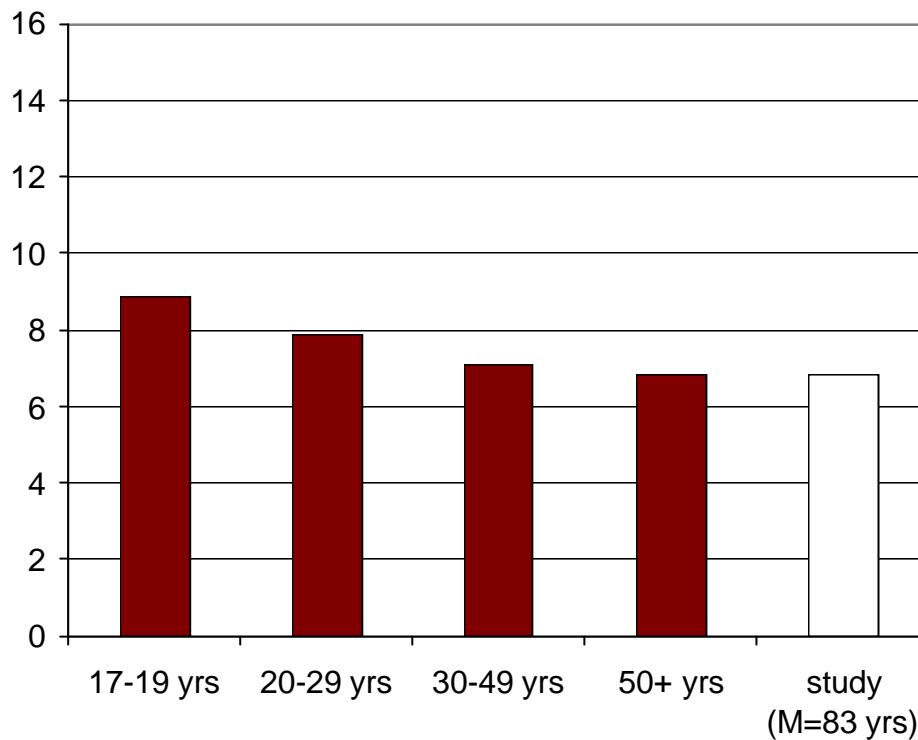
Both of these findings appear to run contrary to prediction. First, one might expect physical dependency to have an impact on psychological dependency. In other words, persons who are physically dependent upon a caregiver (and have been for some time) are more likely to accept help and require reassurance than their more able counterparts. Second, various kinds of trait dependency are often found to be higher among women. However, by differentiating the sample in terms of gender and comparing the results to established norms, this pattern of results can be explained (see **Figure 7a**, below).

Figure 7a. Norms for Succorance Scale (Men)



As these norms indicate, succorance steadily decreases among older groups of men. In the present sample of 19 men (mean age of 79 years), however, succorance was clearly elevated, at least compared to the group aged 50 years and more ($z = -4.44$; $p < .01$). Of course, the men in the present study were probably much more frail than those comprised in the normative sample. Therefore, one interpretation of these results is that physical dependency is associated with an increase in psychological or trait dependency.

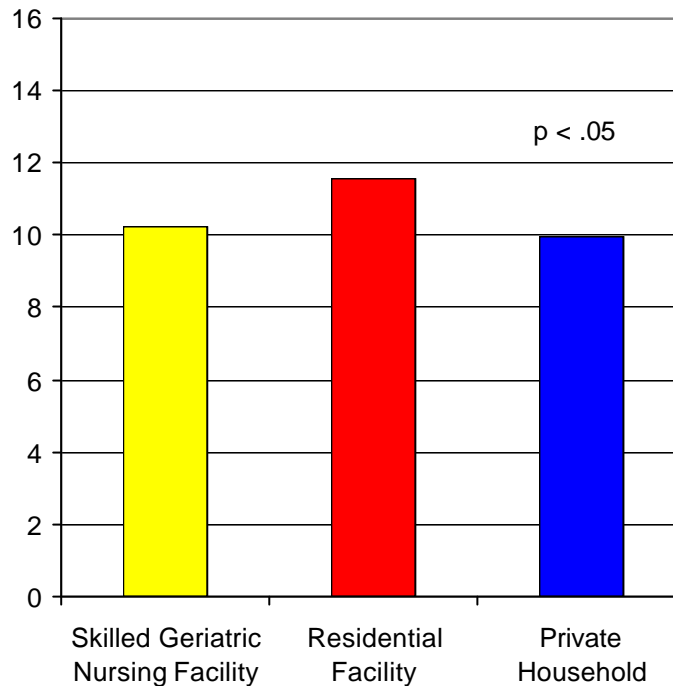
Norms for women produced an interesting contrast to this finding (see **Figure 7b**, below).

Figure 7b. Norms for Succorance Scale (Women)

Much like the norms for men, succorance shows appreciable decline among older groups of women. Surprisingly, the 82 women in our sample (mean age of 83 years) did not show any perceptible increase in succorance, even though they too were probably much more frail than those in the normative sample. It might be that women are more resilient than men when confronted with increased physical dependency. A second, and perhaps more plausible explanation is that the women assessed in the present study were not suffering loss quite in the same measure that the men were. As stated earlier (**Sample Description**), women in the present sample tended to be both older and stronger than the men. This sampling effect would also explain why women did not, at a mean level, show higher trait dependency than men, a finding that is commonplace whenever transparent methods of assessing dependency are employed (Bornstein, 1993).

4.1.2 Stoicism

Let us now examine the mean levels of stoicism in various caregiving contexts.

Figure 8. Mean Stoicism Scores by Setting

As **Figure 8** shows, stoicism was clearly higher among those in the residential facility (F-test; $p < .05$). Stoicism scores among care recipients living at home or in skilled geriatric nursing facilities were roughly equal.

Again, given the link between physical dependency and place of residence, the most plausible interpretation of this result is that stoicism decreases as one's level of functioning declines. Those living in the skilled geriatric facility, for example, obviously need more care: They must concede their dependency upon others, and hence, can no longer afford to remain stoic. Conversely, those living in the residential facility enjoyed the best health, were relatively autonomous, and had the luxury of adopting a stoic philosophy.

According to the logic above, care recipients at home should show somewhat higher stoicism than care recipients in geriatric nursing facilities. The reason both of these groups had equivalent levels of stoicism ($M = 9.95$ and 10.23 , respectively) might be due to a sampling bias. Because stoicism is correlated with age ($R = .24$; $p < .01$), and because those living at home were significantly younger (mean difference of 5.1 years; $p < .01$), their level of stoicism was lower than what one would expect based on their functional health alone.

Because there are no norms for the *Stoicism* scale, other comparison groups must be employed. **Figure 9** (below) compares mean levels of stoicism among the elderly and a much younger population (72 university students, nonpsychology majors aged 19-25 years).

Figure 9. Stoicism: Comparison with Student Scores

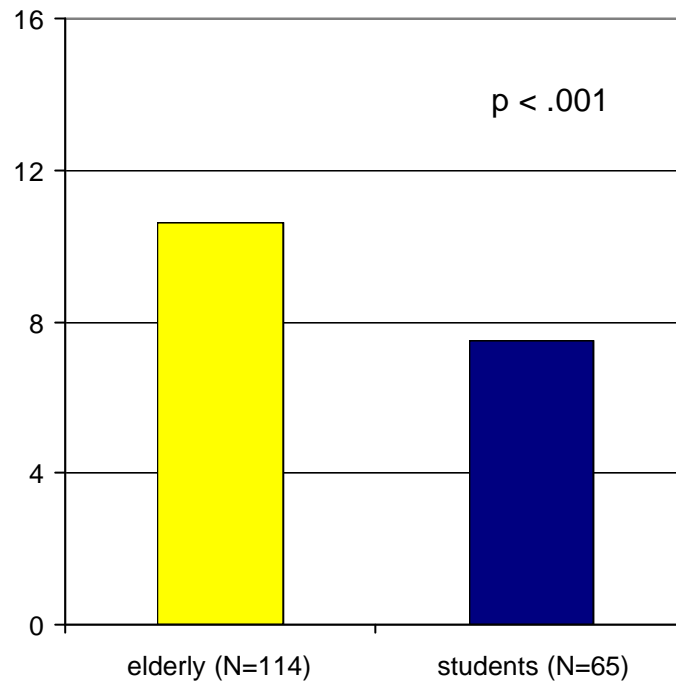


Figure 9 clearly illustrates that the older generation is much more stoic than the younger generation (t-test; $p < .001$). The difference between the mean scores for elderly and student groups is greater than one standard deviation. Naturally, these samples also differ greatly in a number of other respects, most notably in terms of age, education and health. Still, these results are probably due underlying cohort differences, such as the relative hardship experienced by those growing up in postwar Germany.

4.2 Trait Affiliation

Affiliation can be understood in terms of trait affiliation, a global construct, as well as caregiver affiliation, a specific one.

4.2.1 Affiliation

Affiliation was assessed using the *Affiliation* and *Caregiver Affiliation* scales. Mean scores for the *Affiliation* scale are depicted in **Figure 10** (below).

Figure 10. Mean Affiliation Scores by Setting

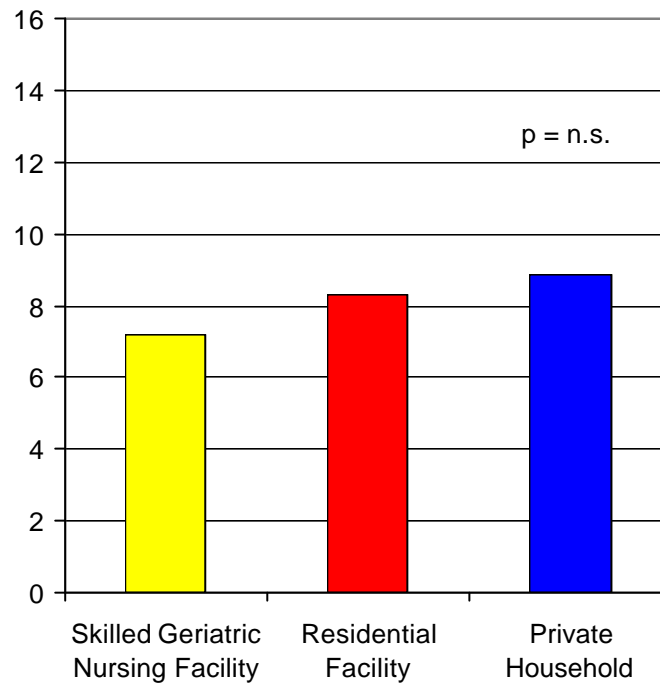


Figure 10 shows that affiliation did not vary much between different caregiving contexts (F-test; $p = ns$). An inspection of the figure shows a trend for persons in private households to have higher trait affiliation. This difference, however, was not expected and did not reach statistical significance. Again, the likely source of the difference is the sampling bias; affiliation declined sharply with age ($R = -.43$; $p < .001$), and persons in private households were significantly younger.

Why should affiliation decrease so rapidly with age? Without doubt, this is due to the fact that older individuals have less opportunity to engage in certain social behaviors. Attending parties and visiting friends becomes more difficult as members of one's circle pass away. Hence, low affiliation scores among the oldest old usually indicate a lack of social partners rather than low desire to affiliate with others.

Let us now compare how the scores in the present sample compare with the norms for the *Affiliation* scale (**Figures 11a and 11b**).

Figure 11a. Norms for Affiliation Scale (Men)

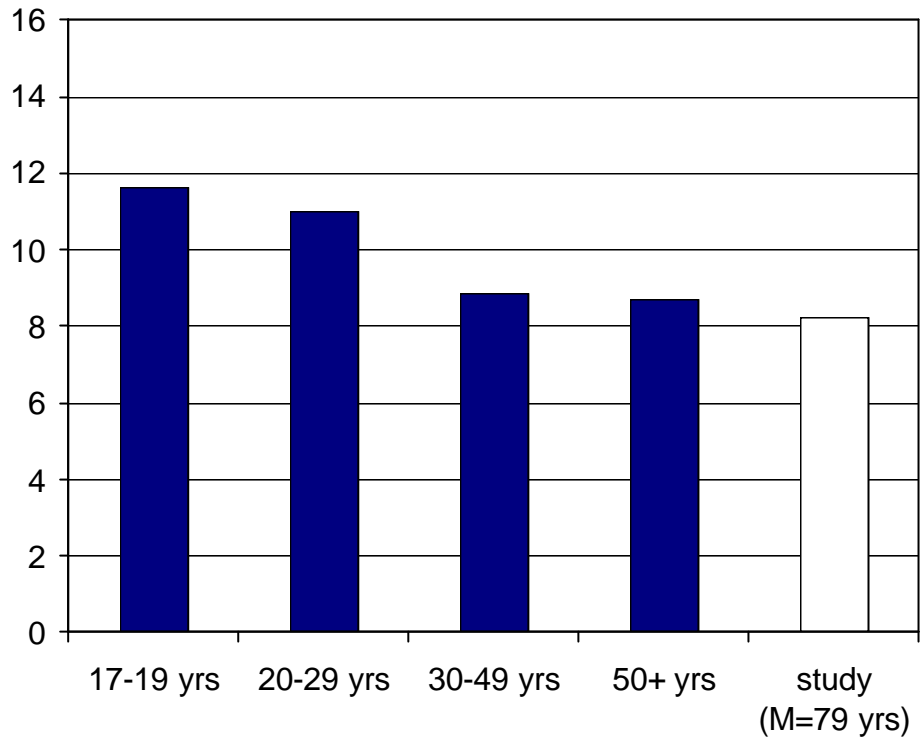
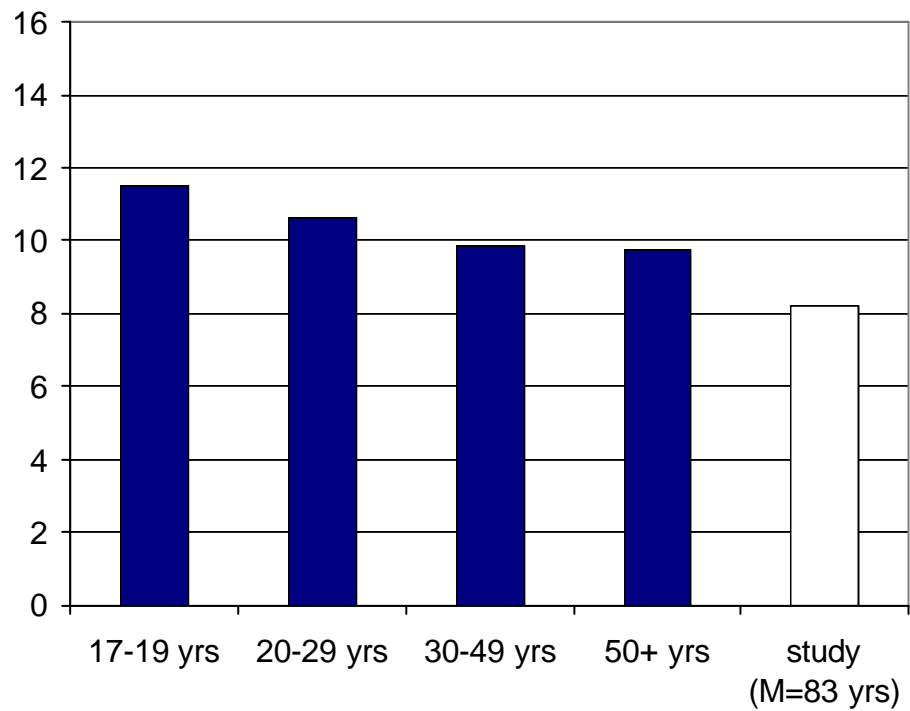


Figure 11b. Norms for Affiliation Scale (Women)

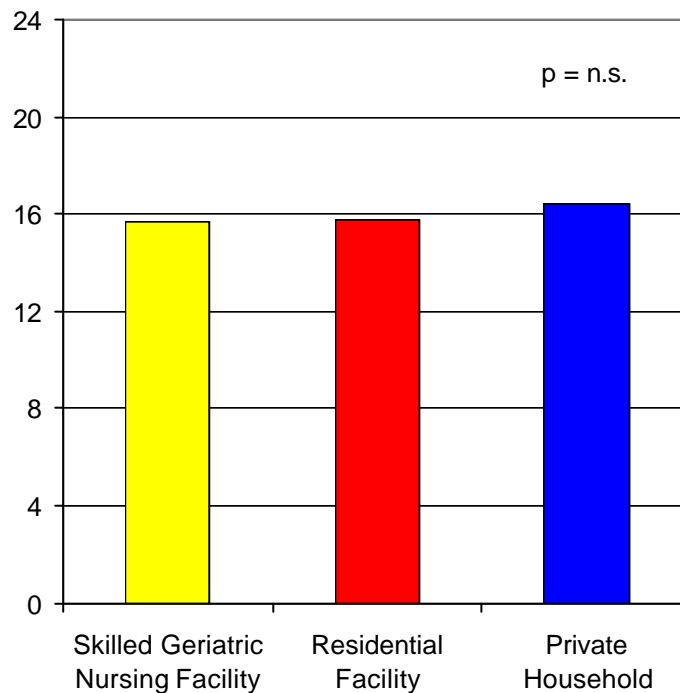


The norms for the *Affiliation* scale show decline among older groups of men and women. In the present study, the 19 male respondents (mean age of 79 years) had somewhat lower, yet comparable levels of affiliation, whereas the women (mean age of 83 years) showed a significant drop in affiliation score ($z = -13.23$; $p < .01$).

4.2.2 Caregiver Affiliation

The mean scores for caregiver affiliation, a person-specific variant of the general affiliation construct, are depicted in **Figure 12**, below.

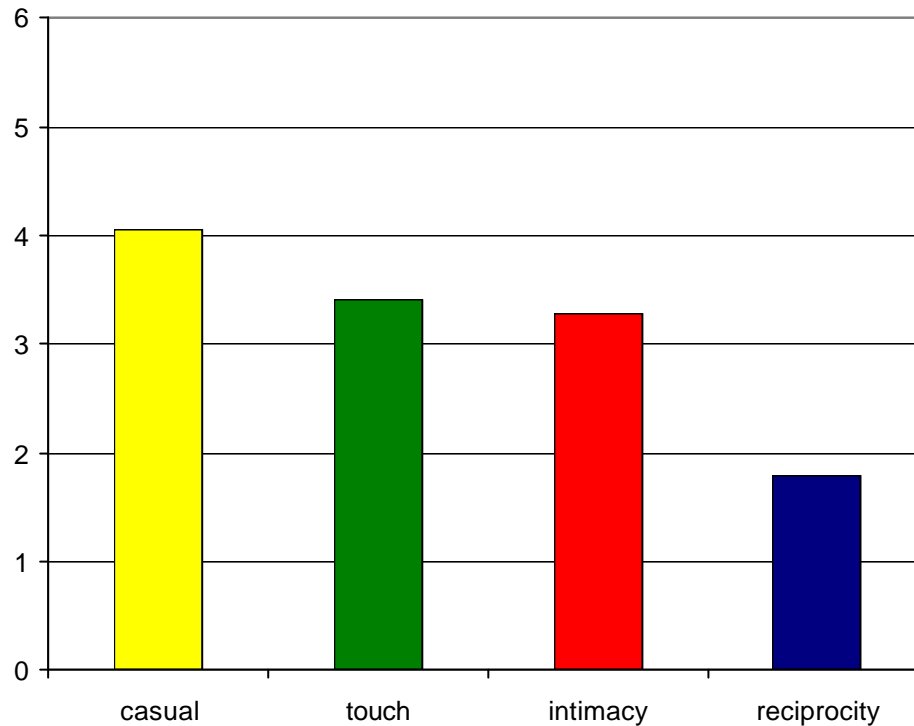
Figure 12. Mean Caregiver Affiliation Scores by Setting



There was little variation in caregiver affiliation across different caregiving contexts (F-test; $p = ns$). This is interesting because one might hypothesize that those elders who rely heavily on caregivers (i.e., persons living in skilled nursing facilities) might be closer to and/or desire more friendship with their helpers. Conversely, those living at home might have more opportunities to engage in affiliative exchange. Neither of these patterns are evident from the graph. Finally, although one might think that women are more likely to pursue close relationships with their caregivers (simply because they are quite often the same sex as the persons they care for), no gender differences were found (t-test; $p = ns$).

A more differentiated analysis of caregiver affiliation is presented in **Figure 13**.

Figure 13. Subdimensions of Caregiver Affiliation Scale



The *Caregiver Affiliation* scale contains various items related to casual contact, physical contact, intimacy, and reciprocity, respectively. **Figure 13** shows that the elderly care recipient prizes casual contact above all else. Physical contact and intimacy are secondary concerns, followed by reciprocity.

An analysis of the individual items in the *Caregiver Affiliation* scale is afforded in **Table 16**, below.

Table 16. Percentage of Respondents Agreeing with Individual Items from the Caregiver Affiliation Scale.

Item	Direction	Percentage of respondents clearly agreeing	Percentage of respondents clearly disagreeing
<i>Desire for Social Capital</i>			
Making small talk with my caregiver is often tiresome and unsatisfying.	negative item	26%	62%
I sometimes feel uncomfortable or embarrassed when my caregiver touches me.	negative item	18%	68%
I enjoy letting my caregiver put an arm around me or pat me on the back.	positive item	25%	50%
Having someone help me makes me feel warm inside.	positive item	74%	12%
Caregivers and receivers should become closer and more intimate over time.	positive item	62%	23%
I prefer keeping personal thoughts to myself.	negative item	81%	7%
<i>Fear of Being a Burden</i>			
I worry sometimes that I take up too much of the staff's time.	positive item	19%	70%
Sometimes, I feel guilty when someone has to come help me.	positive item	26%	62%
Receiving help makes me feel inferior.	positive item	10%	83%
I sometimes feel ashamed for needing help to wash or dress.	positive item	15%	76%
Since my caregiver is paid, I don't really owe him or her anything.	negative item	63%	29%
In some relationships, it's normal to receive help and never give anything back in return.	negative item	68%	23%

As discussed earlier, the *Caregiver Affiliation* scale has two components, *desire for social capital* and *fear of being a burden*. With regards to the latter, **Table 16** shows that the care recipients who are concerned about being a burden to their caregivers are in the minority. In general, roughly 20% report feeling ashamed, guilty or anxious about soliciting help from their caregivers. A slightly higher percentage, perhaps one-quarter of all respondents, are concerned with reciprocity in the caregiving relationship.

The findings regarding desire for social capital are less clear-cut. A majority of respondents appear to enjoy casual conversation, and feel good knowing there is someone to take care of them. Most respondents state that they are not bothered by procedural touch; however, they

are more ambivalent regarding physical demonstrations of affection (i.e., one quarter of the respondents could not readily agree or disagree with this item). Moreover, very few respondents appear to feel the need to confide in their caregivers.

Of course, one must use restraint when interpreting the results of this analysis. Although the results indicate that some forms of social capital are more desirable than others, the difficulty of each item is dependent upon its formulation, and interpretations of this nature are highly speculative.

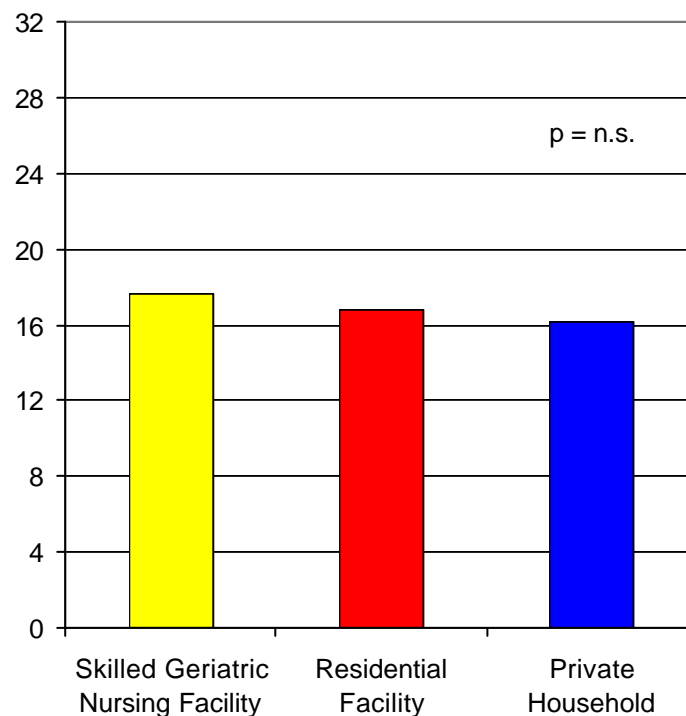
4.3 Attitudes toward Authority

Both respect for unspecific authority as well as a domain-specific variant, respect for medical authority, were assessed.

4.3.1 Respect for Unspecific Authority

Mean scores for the *Respect for Unspecific Authority* scale are depicted in **Figure 14**.

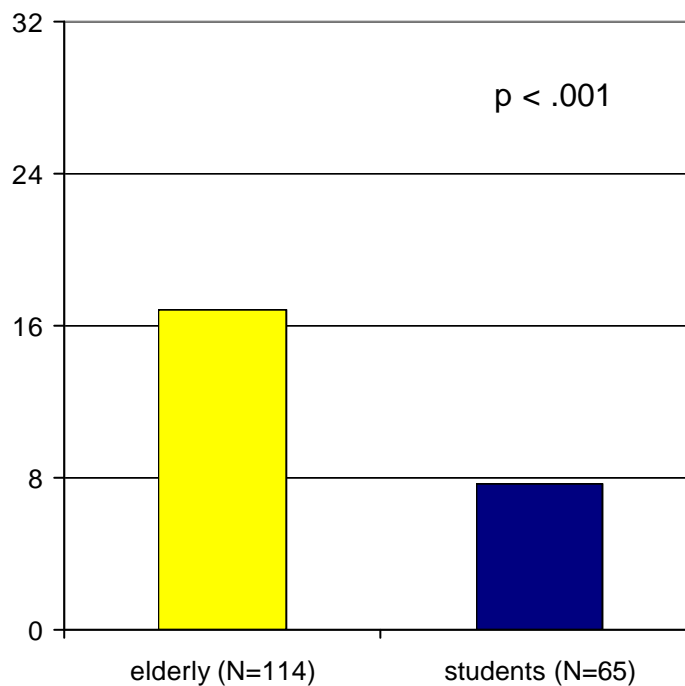
Figure 14. Mean Respect for Unspecific Authority Scores by Setting



Respect for unspecific authority did not vary much between different caregiving contexts (F-test; $p = ns$). However, not much context-dependent variation was expected. On the other hand, respect for unspecific authority did vary significantly between genders (t-test; $p < .05$). Posthoc analysis revealed that a few of the items on the scale deal with wartime issues. Virtually all of the men in the study sample had been in military service at some point in their lives, which may have bred a rather conservative attitude toward authority.

Although the *Respect for Unspecific Authority* scale has been employed in numerous studies, norms for the scale do not appear to have been developed. In order to put the elderly individual's respect for authority in perspective, the scale was also administered to a younger cohort (**Figure 15**, below).

Figure 15. Respect for Unspecific Authority: Comparison with Student Scores

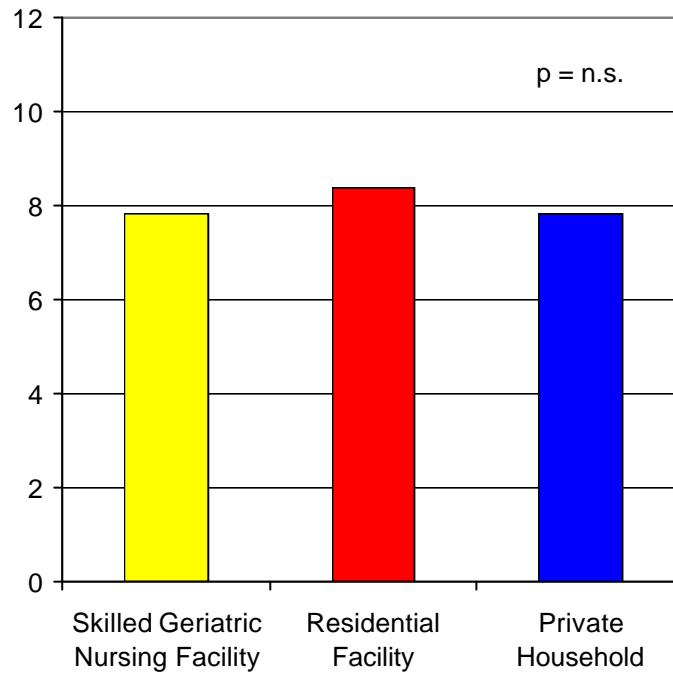


Comparison with student scores shows that the older generation has much more respect for authority than the younger generation (t-test; $p < .001$). The difference between the mean scores for elderly and student groups is far greater than two standard deviations. Obviously, historical factors (the rampant authoritarianism in prewar Germany) play a role here.

4.3.2 Respect for Medical Authority

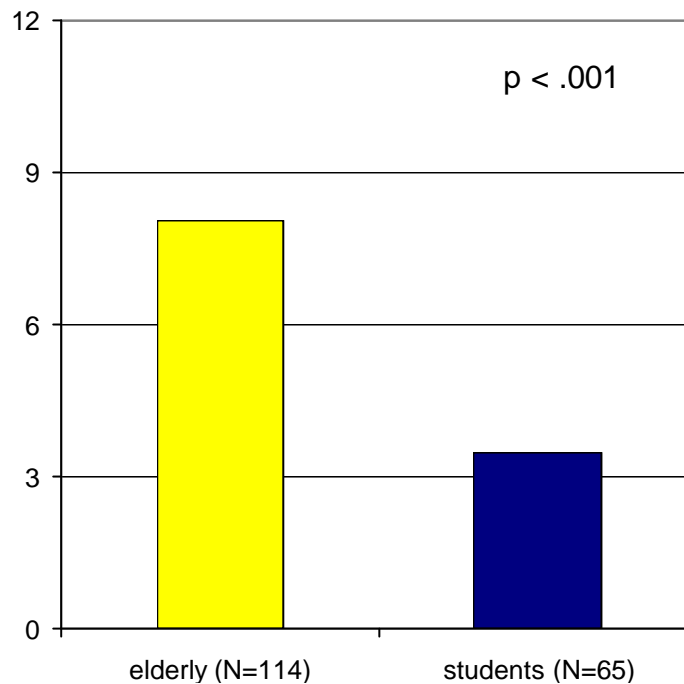
The mean scores for respect for medical authority across different caregiving settings are depicted below (**Figure 16**).

Figure 16. Mean Respect for Medical Authority Scores by Setting



As **Figure 16** shows, respect for medical authority did not vary much between different caregiving contexts (F-test; $p = ns$). However, because trust in one's doctor and the medical system have preinstitutional roots, little variation was expected from context to context.

The *Respect for Medical Authority* scale is a newly developed measure, and norms for the scale have not yet been developed. Therefore, the elderly care recipients' scores were contrasted with those of a younger cohort (**Figure 17**).

Figure 17. Respect for Medical Authority: Comparison with Student Scores

Comparison with student scores shows that the high respect for authority found among elders also applies to the medical domain (t-test; $p < .001$). The mean score for the elderly sample is three standard deviations higher than the mean score for the student sample. Again, historical factors (poor educational opportunities, the paternalistic nature of the medical system in the first half of this century) are pertinent explanations of these results.

Note that the *Respect for Medical Authority* scale is a criterion-referenced test. The items were created by consulting medical references and practicing physicians regarding the correct patient behavior and attitudes; hence, a meaningful interpretation of the data need not rely on comparison with other samples (e.g., norms). **Table 17** presents a number of selected items from the scale which every patient, by rights, should answer correctly.

Table 17. Percent Errors on Respect for Medical Authority Scale (Selected Items)

Item	Correct Response	Percentage of Errors Observed
Prescribed medication always helps.	false	45.6%
Patients shouldn't complain about the side-effects of medication.	false	48.2%
It is always better for the doctor to ask the questions and the patient to answer them, not vice versa.	false	72.8%
Patients shouldn't report all of their symptoms, only the painful or unpleasant ones.	false	64.9%
A patient may refuse medical treatment, even if he might die as a result.	true	36.8%
Hospital staff don't use force against patients.	false	65.8%

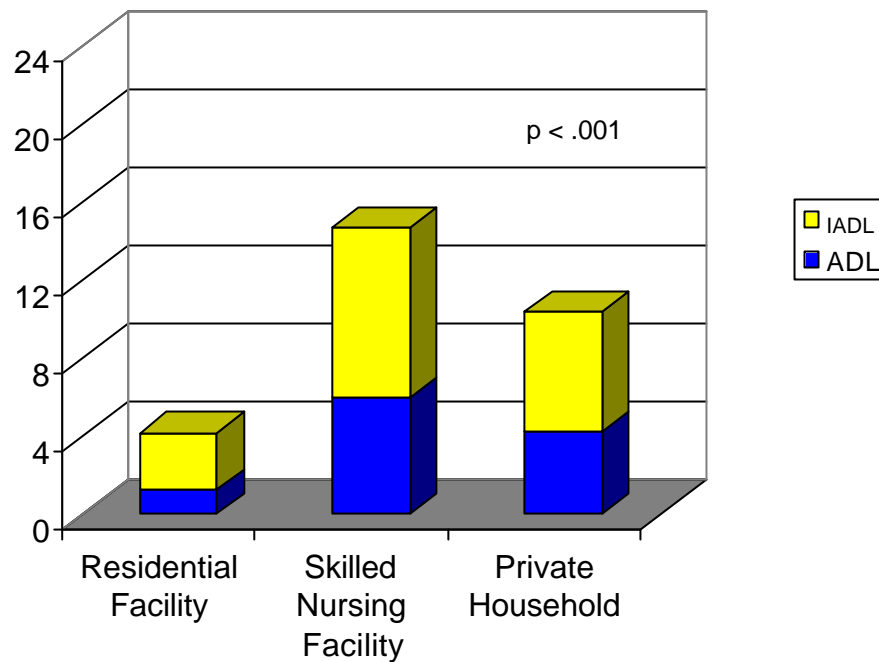
As **Table 17** shows, respect for medical authority can be taken too far. Although some degree of trust is obviously necessary in the doctor-patient relationship, the attitudes toward medical authority expressed here are obviously dysfunctional and warrant some kind of intervention.

4.4 Behavioral Dependency

Behavioral dependency comprises both physical and social dependency.

4.4.1 Physical Dependency

Physical dependency was briefly described in the **Sample Description** as functional health. The results are depicted graphically in **Figure 18**.

Figure 18. Mean Physical Dependency Scores by Setting

As expected, physical dependency varied according to caregiving setting, with the highest physical dependency occurring in skilled geriatric nursing facilities, the lowest in residential facilities (F-test; $p < .001$). Care recipients living at home presented a wider range of care needs; their mean physical dependency score thus lay between these two extremes.

Although 25% of the sample had minimal care needs (i.e., seldom came in contact with a caregiver), taken as a whole, the participants in this study had clearly higher care needs than the normal population of elderly. Between 23% and 36% of the respondents required assistance with such rudimentary activities as eating, grooming, toileting and transferring. Half of the respondents (48%) needed help dressing, and two-thirds (66%) needed help bathing. In contrast, epidemiological studies on the percentage of elderly individuals living at home who require such assistance is invariably under 10% (Wahl, 1992).

The sample respondents also had higher care needs than those reported for nursing home residents in the Berlin Aging Study (Baltes, Maas, Wilms & Borchelt, 1996). In that study, similar percentages of elderly required help with bathing and toileting were reported (66% and 30%, respectively). However, fewer subjects required help with dressing and transfer (36% and 21%, respectively). The same could be said for eating and grooming; however, the percentage of elderly requiring assistance with these tasks were so low (one percent and three

percent, respectively), that the comparability of the sampling procedure and measures employed between both studies must be questioned.

4.4.2 Social Dependency

Mean scores for social dependency, the main outcome variable, are presented in **Figure 19**, differentiated as elsewhere, according to caregiving setting.

Figure 19. Mean Social Dependency Scores by Setting

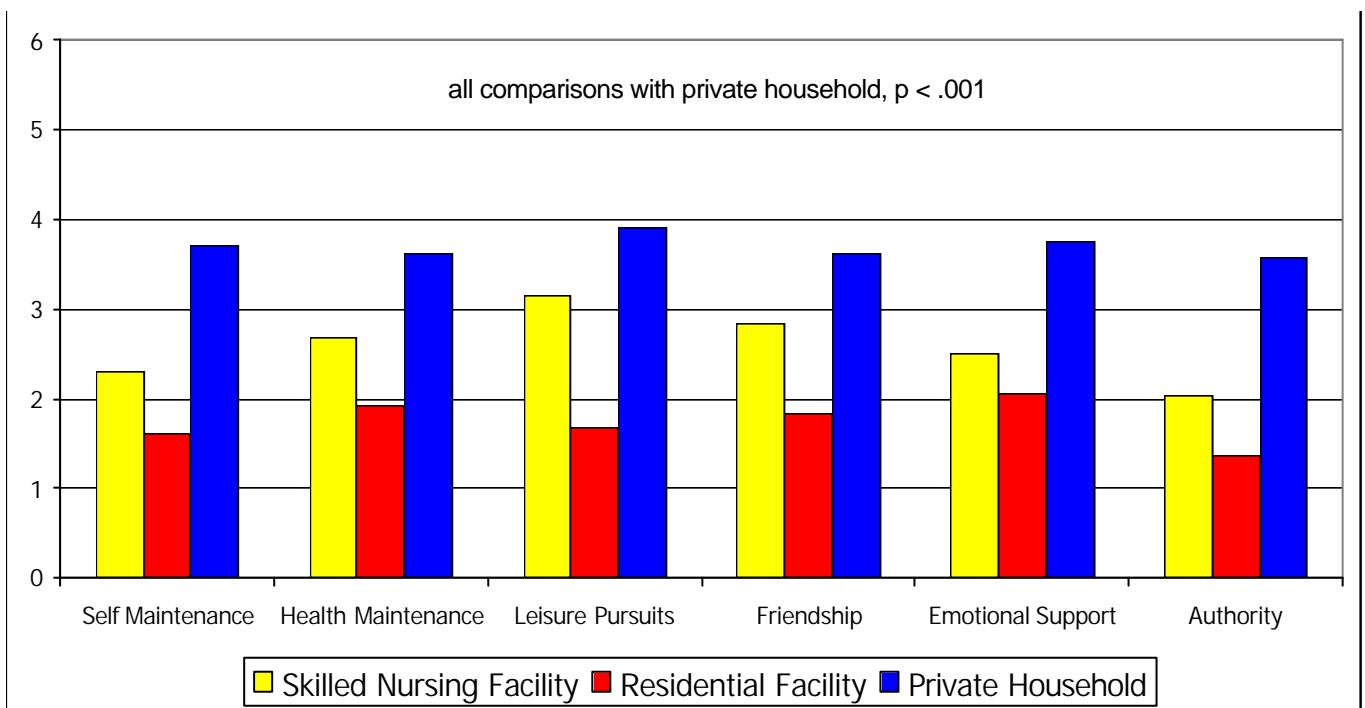
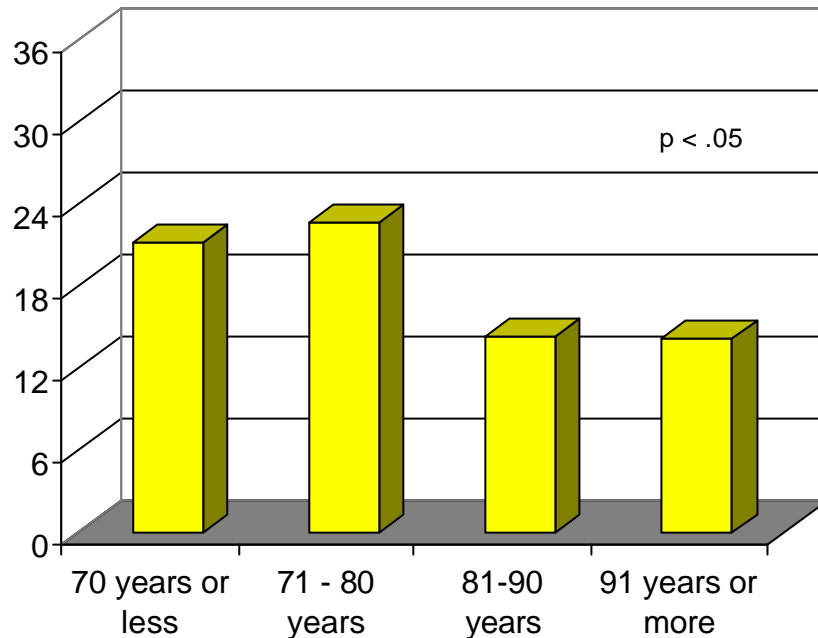


Figure 19 shows social dependency to be strongly influenced by caregiving context. The remarkable aspect of this finding, however, is that social dependency was clearly and consistently higher in the homecare environment (t-test between institutional and home contexts; all p 's < .001). This may be due, on the one hand, to the lack of structure in the home environment (no regulations, no activity schedule), which requires the caregiver to motivate and monitor the care recipient all by herself. On the other hand, it may be due to the comfort and privacy afforded by the home environment, which facilitates the formation of social bonds between caregiver and care recipient.

Another interesting finding was the relation between social dependency and age group. Care recipients in the younger age groups (80 years and younger) had significantly higher scores on social dependency (F-test; $p < .05$), depicted in **Figure 20** below.

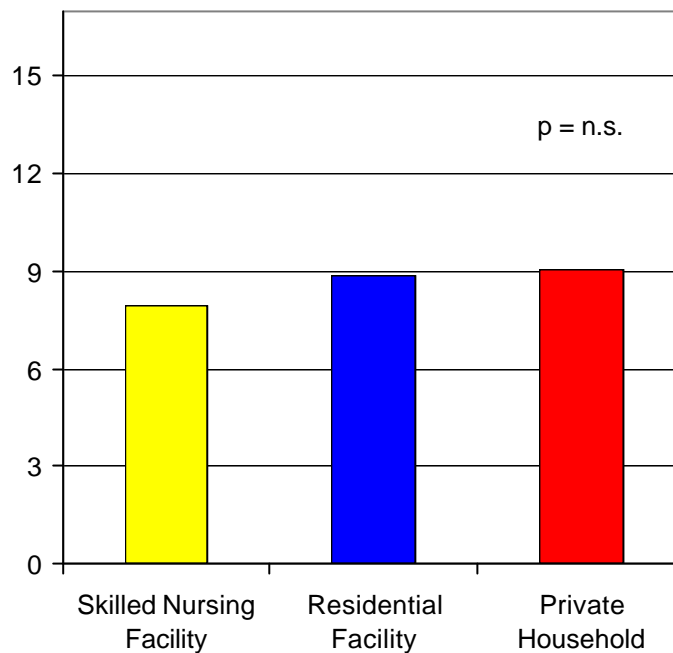
Figure 20. Age Group Differences in Social Dependency



The sampling bias in the present study might partially explain why social dependency was higher in private households. Recall that homecare recipients were generally younger than those receiving care in institutions. Since social dependency is highest among the young-old, higher social dependency scores at home, then, could be partially due to the fact that homecare recipients were slightly younger.

4.5 Psychological Adjustment

Finally, mean scores for morale, the other major outcome variable in the present study, are presented in **Figure 21**.

Figure 21. Mean Morale Scores by Setting

As can be observed in **Figure 21**, morale did not vary by setting (F-test; $p = ns$). It also did not vary across age group or gender (t-test; $p = ns$). Significant differences between settings was not explicitly hypothesized.

5. Predicting Dependent Behavior and Psychological Adjustment

Beyond the mere description and comparison of mean scores lies the question of predicting outcome. In the following, I examine the role of personality constructs in explaining adjustment to the caregiving situation, controlling of course, for important demographic variables. The major outcome variables used in the analysis are social dependency and morale.

5.1 Zero-Order Predictors of Social Dependency and Morale

The exploration of this question begins with zero-order correlations between potential predictors and outcomes (**Table 18**). The goal here is to identify likely predictors of social dependency and morale.

Table 18. Zero-Order Correlations Between Personality Variables and Outcomes

Personality Factor	Social Dependency (N = 86)	Morale (N = 114)
Succorance	ns	-.29**
Affiliation	ns	(.20)
Respect for Unspecific Authority	(.23)	ns
Stoicism	ns	.20*
Caregiver Affiliation	ns	(.18)
Respect for Medical Authority	.32**	ns

- () p < .10
 * p < .05
 ** p < .01
 *** p < .001

Table 18 shows that authority constructs had the strongest relationships to social dependency. However, this part of the data analysis is hampered by the relatively low sample size (only 86 of the subjects required direct, hands-on care). A more finely tuned analysis of the social dependency subdimensions provides evidence that dependency constructs (succorance, stoicism) also played a role. Correlations between dependency constructs and each subdimension of social dependency were consistently positive, if not significant. Succorance and stoicism scores were also correlated with self-care maintenance and emotional support subdimensions of the social dependency scale ($p < .10$).

Table 18 also shows morale to be primarily related to dependency constructs (succorance, stoicism). However, affiliation constructs (affiliation, caregiver affiliation) seemed to play a supporting role. High morale was typically associated with an independent mindset, which is interesting in light of the fact that most of the individuals in this sample had been physically

dependent upon a caregiver for many years and could thus hardly be classified as independent.

After identifying likely *predictors* of outcome, a second task is to identify important *control* variables using the same methodology (**Table 19**).

Table 19. Zero-Order Correlations Between Control Variables and Outcomes

Control Variable	Social Dependency (N = 86)	Morale (N = 114)
Age	-.31**	ns
Gender	ns	ns
Education	ns	ns
Functional Health	.53***	(-.18)
Familiarity	(-.19)	ns

- () p < .10
 * p < .05
 ** p < .01
 *** p < .001

Age, physical dependency (ADL / IADL score), and familiarity were significantly correlated with social dependency at the $p < .10$ level, and must therefore be regarded as important control variables in the prediction of this outcome. Similarly, morale was weakly associated with physical dependency, which indicates that this variable should certainly be entered into the regression equation for morale.

5.2 Person-Environment Predictors of Social Dependency and Morale

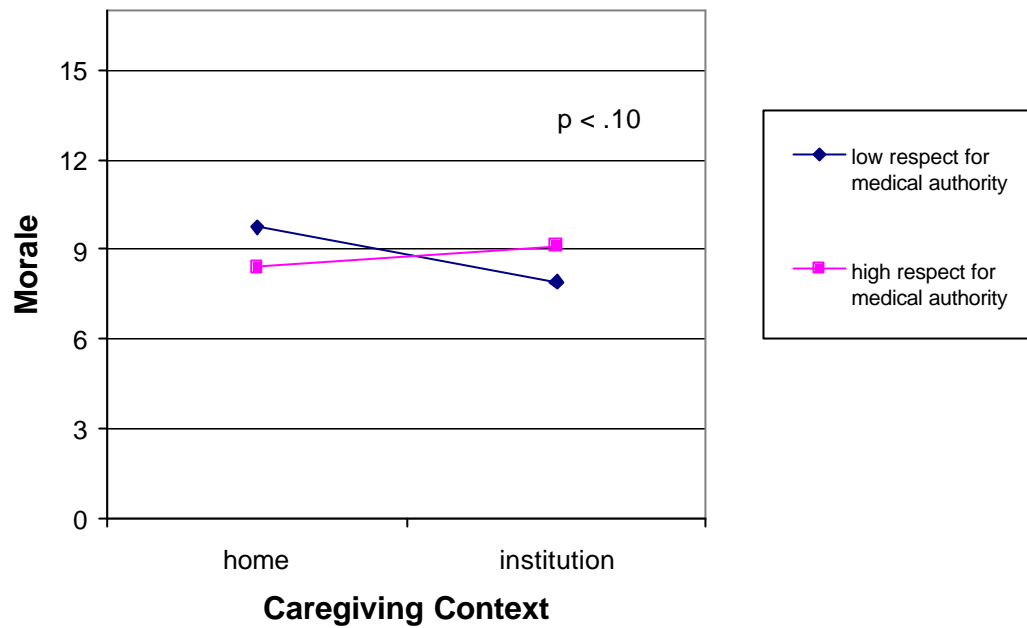
A third kind of variable that might be helpful in predicting dependent behavior and psychological adjustment are interactions between person and environment. In other words, neither aspects of the person, nor aspects of the environment, but rather the *person-environment fit* is what best predicts adjustment in the caregiving context.

An analysis of covariance was conducted using the general linear models procedure. The sample was divided by paramedian split according to scores on person-related variables (succorance, stoicism, affiliation, caregiver affiliation, respect for unspecific authority and respect for medical authority). Environmental variables were dummy coded as 1 or 0 (for residents of private homes or institutions, respectively).

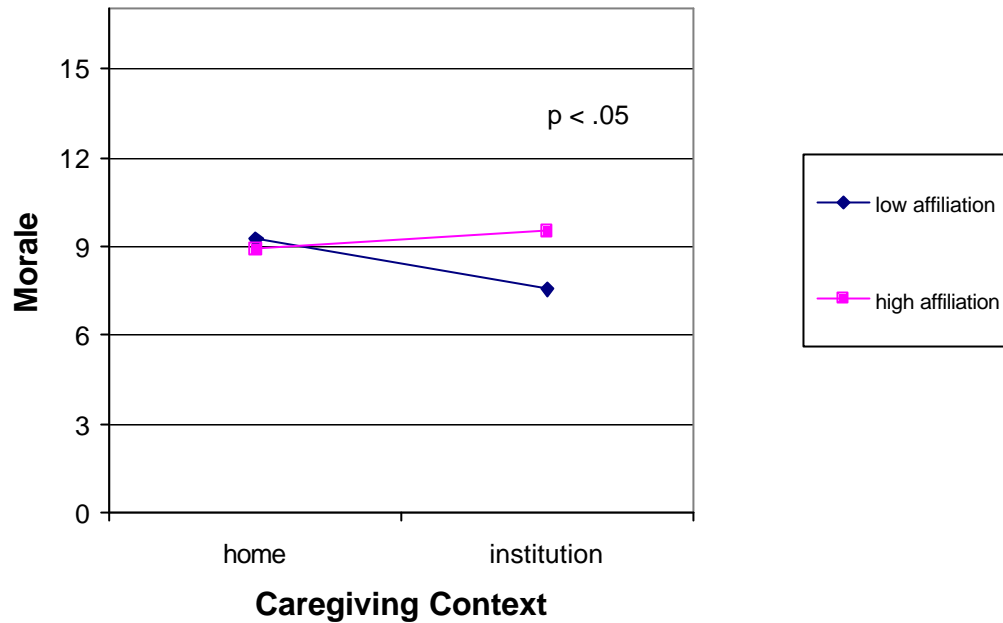
Few interactions were found, but actually, few interactions were hypothesized. (Most of the variables assessed were thought to have comparable effects on social dependency, regardless of caregiving context.) No person-environment interaction terms were significant in the prediction of social dependency.

With regards to morale, only affiliation and respect for medical authority exhibited significant interactions with the caregiving environment (**Figures 22 and 23**). Even here, the P-E interactions were not very strong, only significant at the $p < .10$ and $p < .05$ level, respectively.

Figure 22. Interaction Between Respect for Medical Authority and Environment on Morale



Respect for medical authority appears to improve psychological adjustment in institutional settings, where the elderly are continually exposed to the dictates of the medical establishment. Just the opposite pattern occurred at home, where the patient is relatively less constrained by the omnipresent medical authority.

Figure 23. Interaction Between Affiliation and Environment on Morale

The interaction between affiliation and caregiving context on morale was unexpected. In hindsight, explaining the interaction is not difficult. The institutional environment is obviously a group living arrangement, and those who are, by nature, friendly and outgoing are likely to be better adjusted. Conversely, persons living at home were often alone, and persons who prefer to be by themselves do better under such conditions.

5.3 Regression Analyses of Social Dependency

In order to predict social dependency, two regression analyses were run, with *restricted* and *unrestricted* models (Werner, 1997). The *restricted* model employed sociodemographic and environmental variables that might influence the outcome. The restricted model added personality variables to the predictor set, in order to see if personality significantly enhanced the amount of variance that could be explained.

Given the relatively small sample (i.e., only 86 of the 114 individuals assessed required care on a daily basis), an effort was made to restrict the number of predictors used in the regression analyses. The *sociodemographic* variables included age, gender, and functional health (ADL score, also referred to as physical dependency). *Environmental* variables comprised the caregiving environment (coded "0" for the institutional context, "1" for the homecare context)

and familiarity with one's caregiver (how long, in months, the caregiver knew the resident). Finally, the *personality* variables employed were the three standardized measures (succorance, affiliation, and respect for unspecific authority) as well as the three newly developed measures (stoicism, caregiver affiliation, and respect for medical authority).

The regression analysis of social dependency, using the restricted model, is presented below (**Table 20a**).

Statistical Table 20a. Regression Analysis of Social Dependency (Restricted Model)

Variable	Standardized b weight	Semipartial R ²	Significance Level
Sociodemographic Factors			
--Age	0.05	.002	ns
--Gender	- 0.08	.005	ns
--Functional Health	0.55	.258	< .001
Environmental Factors			
--Caregiving Environment	0.43	.155	< .001
--Familiarity with Caregiver	- 0.15	.020	ns
Model R² (unadjusted)	.49		< .0001

Much of the social dependency in elderly care recipients could be predicted through recourse to just two variables: functional health and caregiving environment. Those with poor health, as well as those receiving care at home, exhibited higher social dependency.

Now, let us turn to the very important question of whether personality influences social dependency. A regression analysis of social dependency, adding personality factors to the predictor set, is given in **Table 20b**.

Table 20b. Regression Analysis of Social Dependency (Unrestricted Model)

Variable	Standardized b weight	Semipartial R ²	Significance Level
Sociodemographic Factors			
--Age	0.13	.001	ns
--Gender	- 0.13	.012	ns
--Functional Health	0.54	.160	< .001
Environmental Factors			
--Caregiving Environment	0.48	.163	< .001
--Familiarity with Caregiver	- 0.13	.012	ns
Personality Factors			
--Succorance	0.20	.019	ns
--Affiliation	0.21	.019	ns
--Respect for Unspecific Authority	- 0.08	.005	ns
--Stoicism	0.15	.009	ns
--Caregiver Affiliation	- 0.25	.031	ns
--Respect for Medical Authority	0.12	.009	ns
Model R² (unadjusted)		.53	< .0003

In the unrestricted model, the same two factors were significant predictors in the equation. Once again, social dependency was associated with poor health and caregiving at home. None of the personality variables were significant predictors of social dependency. Thus, personality measures which had initially shown significant zero-order correlations with social dependency (i.e., respect for medical authority) did not contribute significantly to the regression equation.

Using the unrestricted model, somewhat more variance in social dependency (53% overall) could be explained. However, the increase in total explained variance was not substantial, as can be inferred by the model's significance level in **Tables 20a** and **20b**. The values show the restricted model to be equal or even slightly superior to the unrestricted model.

5.4 Regression Analyses of Morale

A similar procedure was employed in the prediction of well-being or morale: the regression was first run with a restricted set of predictors, followed by a larger, unrestricted set that included personality variables.

Table 21a. Regression Analysis of Morale (Restricted Model)

Variable	Standardized b weight	Semipartial R ²	Significance Level
Sociodemographic Factors			
--Age	0.00	.000	ns
--Gender	0.23	.045	ns
--Functional Health	- 0.06	.003	ns
Environmental Factors			
--Caregiving Environment	0.11	.011	ns
--Familiarity with Caregiver	0.13	.015	ns
Model R² (unadjusted)	0.07		ns

Analysis with the restricted model was clearly insufficient. None of the sociodemographic and environmental factors were significant predictors of morale. Furthermore, the whole set of predictors, taken together, only predicted 7% of the variance in outcome, which is clearly not a substantial portion.

A regression analysis with the full predictor set, i.e., with the inclusion of personality variables, is presented in **Table 21b**, below.

Table 21b. Regression Analysis of Morale (Unrestricted Model)

Variable	Standardized b weight	Semipartial R ²	Significance Level
Sociodemographic Factors			
--Age	0.10	.004	ns
--Gender	0.35	.091	< .05
--Functional Health	- 0.11	.007	ns
Environmental Factors			
--Caregiving Environment	0.10	.007	ns
--Familiarity with Caregiver	- 0.01	.000	ns
Personality Factors			
--Succorance	- 0.89	.226	< .001
--Affiliation	0.46	.064	< .05
--Respect for Unspecific Authority	0.02	.000	ns
--Stoicism	- 0.21	.007	ns
--Caregiver Affiliation	0.01	.000	ns
--Respect for Medical Authority	0.00	.000	ns
Model R² (unadjusted)	.45		< .0052

Personality variables were significant predictors of morale in a regression equation using the full-range of predictors. In particular, succorance, or trait dependency, was negatively

associated with morale. Conversely, affiliation was positively related to morale. In the final regression, gender also became a significant predictor, indicating that men had higher morale than women.

Unlike social dependency, morale could be best predicted using the unrestricted model, i.e., by the inclusion of personality variables. An additional 38% of variance could be explained, which is a highly significant increase over the restricted model. This can be inferred from the levels of significance reported in **Tables 21a** and **21b**, i.e., the unrestricted model was significant, whereas the restricted model clearly was not.