

### 5.5 Testing Hypothesis 4

Hypothesis 4 stated that there will be differences in the structures of Oerter's stage model between the sub-groups. On average, students of both cultures are assumed to produce higher levels than the other sub-samples. To define the stage level of every participant, the adulthood interviews were analyzed according to Oerter's guidelines, excerpts of which can be found in Appendix A. On the basis of these analyses, each participant was assigned a level score ranging from II-IV. Level I was surpassed by all participants. In this thesis, only the overall-scores will be presented and compared. These scores consist of sub-scores for the personality theory, social theory, action theory, and thinking style. The respondents were given the highest ranking at which they had provided at least three answers. This means that if a participant gave mainly answers at level IIIa and answered one question at level IIIb, he/she would still be given an overall-score of IIIa. If the participant gave at least three answers at level IIIb, his/her overall-score changed to IIIb. Following Oerter's analyses, intermediate levels (IIIa-IIIb; IIIb-IV) were included for those cases where participants were clearly in the transition from one level to the next one, in that while most answers were not yet elaborated enough to obtain the higher score alone, they were clearly more developed than the lower score warranted.

Tables 5.26 and 5.27 show the results of the German sub-samples. One would have assumed that all German sub-samples would obtain an overall-score of at least IIIa, since the conditions of a western industrialized country such as Germany are very favorable for developing complex social representations. Nevertheless, every sample contains a few cases which score lower (see Table 5.26 and Table 5.27). These participants show a conceptualization of themselves, other people, and their environment of remarkably low complexity.

**Table 5.26: Absolute frequencies for the stage model.**

| German sub-samples                    | II-IIIa<br>(1) | IIIa<br>(2) | IIIa-IIIb<br>(3) | IIIb<br>(4) | IIIb-IV<br>(5) | IV<br>(6) | Total |
|---------------------------------------|----------------|-------------|------------------|-------------|----------------|-----------|-------|
| German students,<br><i>N</i> = 62     | 4              | 20          | 6                | 11          | 7              | 14        | 62    |
| German non-students,<br><i>N</i> = 42 | 5              | 23          | 4                | 4           | 2              | 4         | 42    |
| Total                                 | 9              | 43          | 10               | 15          | 9              | 18        | 104   |

As Table 5.26 illustrates, non-students score mainly on IIIa, the category of autonomous identity. Although the students also provide a high number of answers for IIIa, it presents only one of their focuses, since higher categories are used with similar frequency.

To explore the hypotheses further, a median-test was conducted (see Table 5.27). For this analysis the levels were recoded as follows: II-IIIa '1', IIIa '2', IIIa-IIIb '3', IIIb '4', IIIb-IV '5', IV '6'. The median for the overall German sample is 2.0. The Median-Test shows that within the student sample 38 participants reached a level equal to or greater than the sample median, and only 24 scored below the sample median (see Table 5.27). In contrast, within the non-student sample, 14 participants were coded as above or equal to the sample median, whereas 28 reached a level equal to or below the sample median. In sum, the two samples differ significantly in respect to their median stage-level ( $\chi^2 = 7.83$ ;  $p < .01$ , with students obtaining higher scores than non-students, which is not surprising since higher school – and academic education usually facilitates the transition from lower to higher stages.

**Table 5.27:** Median-test for German students and non-students.

|  | German students<br><i>N</i> = 62 | German non-students<br><i>N</i> = 42 | Total |
|--|----------------------------------|--------------------------------------|-------|
| greater than or equal to overall sample median | 38                               | 14                                   | 52    |
| lower than or equal to overall sample median   | 24                               | 28                                   | 52    |
| Total  | 62                               | 42                                   | 104   |

Note: Sample median = 2.0;  $\chi^2 = 7.83$ ;  $p < .01$

As a next step, gender differences within the German sub-samples were analyzed. The results are presented in Table 5.28

**Table 5.28:** Absolute frequencies for the stage model, German students and non-students.

| German sub-samples      | II-IIIa<br>(1) | IIIa<br>(2) | IIIa-IIIb<br>(3) | IIIb<br>(4) | IIIb-IV<br>(5) | IV<br>(6) | Total |
|-------------------------|----------------|-------------|------------------|-------------|----------------|-----------|-------|
| Female<br><i>N</i> = 62 | 3              | 31          | 6                | 9           | 5              | 8         | 62    |
| Male<br><i>N</i> = 42   | 6              | 12          | 4                | 6           | 4              | 10        | 42    |
| Total                   | 9              | 43          | 10               | 15          | 9              | 18        | 104   |

An unexpected gender difference was found in the German samples. The most frequent category for women is IIIa, while men spread their answers more evenly across all six categories, making equal use of IIIa and the highest obtainable category IV. The focus on IIIa is more pronounced for women than for men: almost two thirds of their cases are listed in that category, while 41 % of the men obtain this overall-score. The additional median-test shows that men of the German samples score significantly higher than women ( $\chi^2 = 3.91$ ;  $p < .05$ ). Women conceptualize human beings in their key domains, such as family, work, and politics

(for details see Appendix A) mainly in terms of an autonomous, independent, and conscious entity in pursuit of its own goals and happiness.

**Table 5.29:** Median-test for German men and women.

|  | German females<br><i>N</i> = 62 | German males<br><i>N</i> = 42 | Total |
|--|---------------------------------|-------------------------------|-------|
| greater than or equal to overall sample median | 28                              | 24                            | 52    |
| lower than or equal to overall sample median   | 34                              | 18                            | 52    |
| Total  | 62                              | 42                            | 104   |

Note: Sample median = 2.0;  $\chi^2 = 3.91$ ;  $p < .05$

As a next step, the German sub-samples were compared with the Peruvian students to test for cultural differences in Oerter's stage model.

**Table 5.30:** Absolute frequencies for the stage model, Germans and Peruvian students.

|                                    | <b>II-IIIa</b><br>(1) | <b>IIIa</b><br>(2) | <b>IIIa-IIIb</b><br>(3) | <b>IIIb</b><br>(4) | <b>IIIb-IV</b><br>(5) | <b>IV</b><br>(6) | <b>Total</b> |
|------------------------------------|-----------------------|--------------------|-------------------------|--------------------|-----------------------|------------------|--------------|
| Peruvian students<br><i>N</i> = 48 | 1                     | 11                 | 9                       | 5                  | 7                     | 15               | 48           |
| Germans<br><i>N</i> = 104          | 9                     | 43                 | 10                      | 15                 | 9                     | 18               | 104          |
| Total                              | 10                    | 54                 | 19                      | 20                 | 16                    | 33               | 152          |

**Table 5.31:** Median-test for the stage model, Germans and Peruvian students.

|  | Peruvian students<br><i>N</i> = 48 | Germans<br><i>N</i> = 104 | Total |
|--|------------------------------------|---------------------------|-------|
| greater than or equal to overall sample median | 27                                 | 42                        | 69    |
| lower than or equal to overall sample median   | 21                                 | 62                        | 83    |
| Total  | 48                                 | 104                       |       |

Note: Sample median = 2.8;  $\chi^2 = 3.33$ ;  $p = .10$

As Table 5.30 and 5.31 depict, the Peruvian students surpass the German samples. This is an interesting cultural difference, which must be regarded in the light that the Peruvian students also surpass one of the German sub-samples in level of education, which makes the finding plausible. The interesting question now is whether or not German students and Peruvian students differ, which shall be analyzed in the following.

**Table 5.32:** Absolute frequencies for the for the stage model, German students and Peruvian students.

|                                    | II-IIIa<br>(1) | IIIa<br>(2) | IIIa-IIIb<br>(3) | IIIb<br>(4) | IIIb-IV<br>(5) | IV<br>(6) | Total |
|------------------------------------|----------------|-------------|------------------|-------------|----------------|-----------|-------|
| Peruvian students<br><i>N</i> = 48 | 1              | 11          | 9                | 5           | 7              | 15        | 48    |
| German students<br><i>N</i> = 62   | 4              | 20          | 6                | 11          | 7              | 14        | 62    |
| Total                              | 5              | 31          | 15               | 16          | 14             | 29        | 110   |

**Table 5.33:** Median-test for the stage model, German students and Peruvian students.

|  | Peruvian students<br><i>N</i> = 48 | German students<br><i>N</i> = 62 | Total |
|--|------------------------------------|----------------------------------|-------|
| greater than or equal to overall sample median | 27                                 | 32                               | 59    |
| lower than or equal to overall sample median   | 21                                 | 30                               | 51    |
| Total  | 48                                 | 62                               | 110   |

Note: Sample median = 3.2;  $\chi^2 = 0.23$ ;  $p = ns$ .

Table 5.32 depicts a cultural difference for the students, although the more 'conservative' median-test does not support this finding (see Table 5.33). However, this is not surprising since the median-test highly aggregates data: the stages IIIb through IV are summarized. Table 5.32 makes it obvious that Peruvian students mainly cumulate at stage IV. In contrast, German students' responses are more spread across the three upper stages (especially stage IIIb and stage IV). Therefore, aggregating over the three upper stages removes the differences between the two groups. According to the key assumptions for collectivistic cultures (e.g. Triandis et al, 1998), it makes perfect sense that collectivistic participants focus less on the individualistic category IIIa. Since a student sample is very unlikely to score lower than IIIa, they must score higher. We would have to expect highly educated subjects from collectivistic cultures to usually score higher than highly educated subjects from individualistic countries, since their focus will not be on the stages II or IIIa. This must not be misinterpreted as arguing that individualistic subjects would not reach the highest stages with ease, it only shows their strong individualistic focus, which is not prevalent in collectivistic societies.

**Table 5.34:** Absolute frequencies for the stage model, Peruvian male and female students.

| Peruvian students       | <b>II-IIIa</b><br>(1) | <b>IIIa</b><br>(2) | <b>IIIa-IIIb</b><br>(3) | <b>IIIb</b><br>(4) | <b>IIIb-IV</b><br>(5) | <b>IV</b><br>(6) | <b>Total</b> |
|-------------------------|-----------------------|--------------------|-------------------------|--------------------|-----------------------|------------------|--------------|
| Female<br><i>N</i> = 25 | 0                     | 6                  | 5                       | 3                  | 5                     | 6                | 25           |
| Male<br><i>N</i> = 23   | 1                     | 5                  | 4                       | 2                  | 2                     | 9                | 23           |
| Total                   | 1                     | 11                 | 9                       | 5                  | 7                     | 15               | 48           |

**Table 5.35:** Median-test for the stage model, Peruvian male and female students.

| Peruvian students                              | Peruvian female students<br><i>N</i> = 25 | Peruvian male students<br><i>N</i> = 23 | Total |
|--|---|---|-------|
| greater than or equal to overall sample median | 14  | 13                                      | 27    |
| lower than or equal to overall sample median   | 11  | 10                                      | 21    |
| Total  | 25  | 23                                      | 48    |

Note: Sample median = 3.3;  $\chi^2 = 0.00$ ;  $p = \text{ns}$ .

In contrast to the German samples, we find no significant gender difference for the Peruvian students (see Table 5.34 and Table 5.35). In the following, the genders shall be tested for cultural differences in the student-samples.

**Table 5.36:** Absolute frequencies for the stage model, German and Peruvian female students.

| Female students                           | <b>II-IIIa</b><br>(1) | <b>IIIa</b><br>(2) | <b>IIIa-IIIb</b><br>(3) | <b>IIIb</b><br>(4) | <b>IIIb-IV</b><br>(5) | <b>IV</b><br>(6) | <b>Total</b> |
|---|-----------------------|--------------------|-------------------------|--------------------|-----------------------|------------------|--------------|
| Peruvian female students<br><i>N</i> = 25 | 0                     | 6                  | 5                       | 3                  | 5                     | 6                | 25           |
| German female students<br><i>N</i> = 37   | 1                     | 15                 | 4                       | 6                  | 4                     | 7                | 37           |
| Total                                     | 1                     | 21                 | 9                       | 9                  | 9                     | 11               | 62           |

**Table 5.37:** Median-test, German and Peruvian female students.

| Female students                                | Peruvian female students<br><i>N</i> = 25 | German female students<br><i>N</i> = 37 | Total |
|--|---|---|-------|
| greater than or equal to overall sample median | 14  | 17                                      | 31    |
| lower than or equal to overall sample median   | 11  | 20                                      | 31    |
| Total  | 25  | 37                                      | 62    |

Note: Sample median = 3.5;  $\chi^2 = 0.60$ ;  $p = \text{ns}$ .

Although the median test reveals no significant difference between German and Peruvian female students (Table 5.37), Table 5.36 shows that the groups do differ with regard to the stage levels: Peruvian women score higher than German women. The same analysis was conducted for the male students (see Table 5.38 and 5.39). Both Tables depict that no difference was found for German and Peruvian male students.

**Table 5.38:** Absolute frequencies for the stage model, German and Peruvian male students.

| Male students                           | II-IIIa<br>(1) | IIIa<br>(2) | IIIa-IIIb<br>(3) | IIIb<br>(4) | IIIb-IV<br>(5) | IV<br>(6) | Total |
|---|----------------|-------------|------------------|-------------|----------------|-----------|-------|
| Peruvian male students<br><i>N</i> = 23 | 1              | 5           | 4                | 2           | 2              | 9         | 23    |
| German male students<br><i>N</i> = 25   | 3              | 5           | 2                | 5           | 3              | 7         | 25    |
| Total                                   | 4              | 10          | 6                | 7           | 5              | 16        | 48    |

**Table 5.39:** Median-test, German and Peruvian male students.

| Male students                                  | Peruvian male students<br><i>N</i> = 23 | German male students<br><i>N</i> = 25 | Total |
|--|---|---------------------------------------|-------|
| greater than or equal to overall sample median | 13                                      | 15                                    | 28    |
| lower than or equal to overall sample median   | 10                                      | 10                                    | 20    |
| Total  | 23                                      | 25                                    | 48    |

Note: Sample median = 3.8;  $\chi^2 = 0.13$ ;  $p = ns$ .

If we have a close look at the frequencies, we find that 44 % of the Peruvian women obtain an overall-score of the highest categories IIIb-IV and IV, as opposed to 30 % German female students, and 48 % of Peruvian men obtain a score in these categories as opposed to 40 % German male students. Only one participant of the Peruvian students got a score of II-IIIa, as opposed to four participants in the German student samples. These structural results suggest that there is a somewhat stronger cultural difference between female German and Peruvian students than became salient in the content analyses, and no significant difference between male German and Peruvian students.

The interviews of the four German sub-samples and the Peruvian students could easily be fitted into Oerter's stage model. However, problems arose for the remaining six Peruvian sub-samples of lower education. These became most apparent for the Andean inhabitants: a large body of answers could not be appropriately categorized in the existing scheme. A new category had to be created containing those responses which showed a collectivistic attitude, and did not follow the model's usual path. These answers lacked the autonomous identity

inherent of IIIa, and the key concept of mutuality of the following category IIIb, since IIIb needs the concept of humans as distinguishable entities (IIIa) as a necessary precondition for achieving mutuality. They focus on the community, but do not take enough system variables into account to be classified as IV. To do justice to these answers, the category IIIc (c for collectivistic) was introduced into Oerter's model, combining the western industrialized categories IIIa and IIIb in a collectivistic frame, in which the individual is perceived as a member of a group whose maintenance is of paramount importance, even if it requires the suppression of personal interests. Individual and collective interests do not enter into a conflict, however, since the collective orientation dominates personal identity and individuality. This is one main factor which distinguishes them from stage IV answers. All non-academic Peruvian sub-samples needed this category, as can be seen in Tables 5.40 and 5.41. It is puzzling, however, that the paths of either I – II – IIIa – IIIb – IV or I – II – IIIc – IV do not seem to be disjunctive alternatives. Some participants gave answers which bore characteristics of IIIa and IIIc. Another result which requires explanation is that we find some individuals within the (assumed to be relatively homogenous) sub-samples who follow the western path, and others who follow the collectivistic path. These cases create an opportunity for more discussion below. Since the categories differ and their theoretical anchoring into Oerter's model is not yet sufficiently elaborated, no statistical analyses will be conducted for those cases which differ from the original model (all Peruvian sub-samples with lower education).

Half of the female night-students score on II-IIIc. The highest level, reached by 10 % of the participants, is IIIa-IIIb. Three participants do not obtain a score higher than II. Not one single subject obtained an overall score of IIIa. The same is true for the male night-students: the category IIIa contains no cases. Only one subject reaches the highest score of this sub-sample, which is again IIIa-IIIb, and just like the women, II-IIIc is the category which contains most cases. From these results, the Peruvian night-students can be seen as notably different from the Peruvian students, which confirms the universal hypothesis of the influence of formal education on cognition.

**Table 5.40:** Peruvian lower educated samples.

| Peruvian lower educated sub-samples           | II          | II-IIIc      | II-IIIa     | IIIc        | IIIa        | IIIa & IIIc | IIIa-IIIb   | IIIb-IV     | IV |
|---|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|----|
| Peruvian female night-students, <i>N</i> = 20 | 3<br>(15 %) | 10<br>(50 %) | --          | 4<br>(20 %) | --          | 1<br>(5 %)  | 2<br>(10 %) | --          | -- |
| Peruvian male night-students, <i>N</i> = 15   | 1<br>(7 %)  | 6<br>(40 %)  | 3<br>(20 %) | 3<br>(20 %) | --          | 1<br>(7 %)  | 1<br>(7 %)  | --          | -- |
| Peruvian female immigrants, <i>N</i> = 6      | --          | 2<br>(33 %)  | 1<br>(17 %) | --          | --          | 2<br>(33 %) | 1<br>(17 %) | --          | -- |
| Peruvian male immigrants, <i>N</i> = 8        | --          | 2<br>(25 %)  | --          | --          | 1<br>(13 %) | 1<br>(13 %) | 2<br>(25 %) | 2<br>(25 %) | -- |

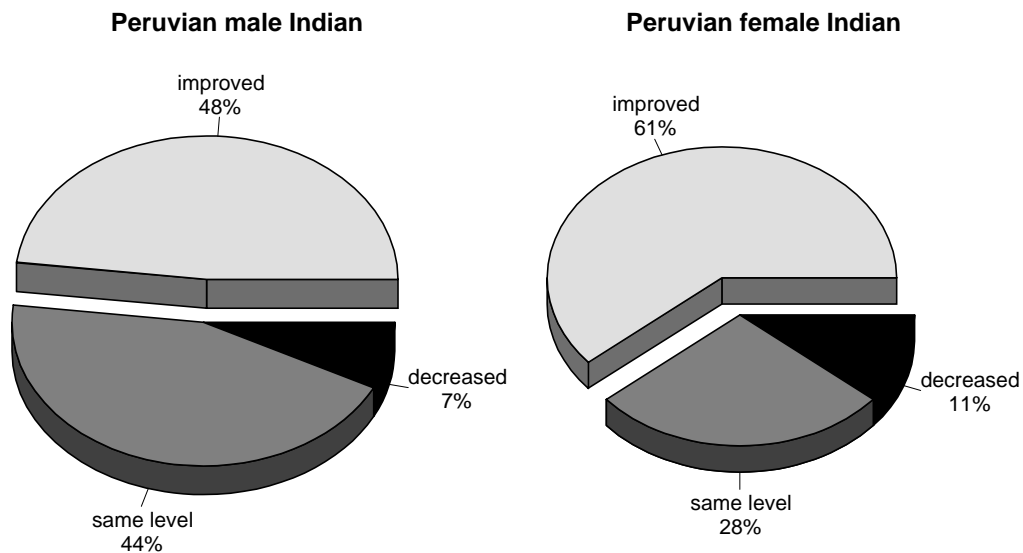
The immigrants obtain surprising overall-scores. Men score remarkably high: only 25 % need the category II-IIIc, while 75 % score at least on IIIa. Two subjects obtain a score of IIIb-IV. Three respondents make use of the collectivistic categories II-IIIc and the semi-collectivistic, semi-individualistic category IIIa & IIIc, while five respondents score entirely on individualistic categories. Taking into account the background and life circumstances of the immigrants, these results seem noteworthy, but since this sub-sample contains such a small number of cases, it must be interpreted with due caution. Women obtain lower scores than men. The highest is IIIa-IIIb, achieved by one participant. One third of this sub-sample uses the collectivistic categories, one third the individualistic categories, and one third the semi-collectivistic, semi-individualistic category. Again, this sample is too small to attempt any kind of generalization of the results.

As for the Indians, considering the daily life and constraints of the Andean villagers, and especially the (sometimes complete) lack of school education, it would not have been surprising only to find a conceptualization of human nature on low structural levels such as I and II. It might be short-sighted, on the other hand, to ignore the cultural richness and insights into human functioning of this ancient Inca culture, as expressed, for example, in their mythology. Table 5.41 shows the longitudinal results for the Indian sub-samples.



**Table 5.41:** Peruvian Indians.

| Peruvian Indians                                       | II           | II-IIIa     | IIIa | II-IIIc     | IIIc         | IIIa & IIIc | IIIa-IIIb   | IIIb | IIIb-IV | IIIc-IV    | IV         |
|--|--------------|-------------|------|-------------|--------------|-------------|-------------|------|---------|------------|------------|
| Peruvian female Indians, first inquiry, <i>N</i> = 30  | 17<br>(57 %) | 3<br>(10 %) | --   | 7<br>(23 %) | 1<br>(3 %)   | 1<br>(3 %)  | 1<br>(3 %)  | --   | --      | --         | --         |
| Peruvian male Indians, first inquiry, <i>N</i> = 30    | 4<br>(13 %)  | --          | --   | 7<br>(23 %) | 9<br>(30 %)  | 5<br>(17 %) | 1<br>(3 %)  | --   | --      | 2<br>(7 %) | 2<br>(7 %) |
| Peruvian female Indians, second inquiry, <i>N</i> = 18 | 7<br>(39 %)  | 2<br>(11 %) | --   | 6<br>(33 %) | 1<br>(6 %)   | 1<br>(6 %)  | 1<br>(6 %)  | --   | --      | --         | --         |
| Peruvian male Indians, second inquiry, <i>N</i> = 27   | 1<br>(4 %)   | --          | --   | 5<br>(19 %) | 12<br>(44 %) | 4<br>(15 %) | 3<br>(11 %) | --   | --      | 1<br>(4 %) | 1<br>(4 %) |

**Figure 5.59:** Changes in stage levels between wave 1 and 2, Peruvian Indians

The longitudinal analysis obtained the following results: From 27 male subjects, 13 (48 %) improved, 12 (44 %) remained at the same level, and 2 (7 %) decreased. From 18 female subjects, 11 (61 %) improved, 5 (28 %) remained at the same level, and 2 (11 %) decreased. Oerter's assumption that the first interview can be regarded as a cognitive treatment, an intervention which stimulates reflection and can cause a stage-transition, could be confirmed by this result. The 7 % and 11 % of cases which decreased in stage levels, on the other hand, present an implicit violation of the conditions of stage models. This topic will be further be dealt with in the Discussion.

In both waves, men obtained higher overall-scores than women, which is not surprising, due to their different daily life conditions, which are more favorable for men, as previously discussed. Women's focus is on the category II, while men's focus is on the category IIIc. In the first inquiry, two male subjects reach the category IIIc-IV, and two others reach IV, while in the second inquiry this number is reduced to one subject per category. This result is remarkable, taking into account the hard living conditions, and the lack of formal education and intellectual stimuli, in the life of the Andean farmers. Women's highest category is IIIa-IIIb, which in both waves was achieved only by one (the same) individual. The alternative collectivistic categories IIIc or IIIa & IIIc are also used only by one single individual per category in both waves.

*Summary.* Oerter's stage model in its published version proved to be a useful categorization system for the four German groups and the Peruvian students. As expected, students of both cultures obtain higher overall-scores than non-students. German women and German male non-students score mainly on IIIa, while the strongest category for German male students is IV. Peruvian students clearly score higher than the German samples, and somewhat higher than the German students alone. German men score higher than German women, while there was no gender difference amongst the Peruvian students. A new collectivistic category was introduced into Oerter's model for the six lower educated Peruvian sub-samples as an alternative path to the individualistic progression of IIIa and IIIb. The new category IIIc focuses on collectivistic worldviews and, together with the hybrid level II-IIIc, was the most frequent category for both male and female night-students. Contrary to expectation, the immigrants score remarkably high and in individualistic categories, but unfortunately these samples are too small to generalize the results. Male Indians score significantly higher than female Indians, whose most frequently used categories are II and II-IIIc. Men make most use of collectivistic categories containing the new stage IIIc. Both genders score higher in the second wave than in the first wave, a result which will be further discussed in the following section.