Interpersonal Hierarchy Expectation: Introduction of a New Construct

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Abstract
The goal of these series of studies was to introduce a new individual difference construct, interpersonal hierarchy expectation (IHE), and to show that it predicts interpersonal perception. IHE means expecting social interactions and relationships to be hierarchically structured. I developed a self-report questionnaire to measure IHE (IHE Scale [IHES]). In 5 studies, 581 undergraduates took the IHES together with an array of self-report personality measures. Three studies included a measure of hierarchy perception. According to prediction, people who expected interpersonal hierarchies were prone to perceive hierarchies in interactions and relationships. The IHES is an easy to apply, short, self-report measure that might prove useful in personnel training and selection as well as in other studies of personality and social behavior.

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Introduction of a New Construct

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The goal of these series of studies was to introduce a new individual difference construct, interpersonal hierarchy expectation (IHE), and to show that it predicts interpersonal perception. IHE means expecting social interactions and relationships to be hierarchically structured. I developed a self-report questionnaire to measure IHE (IHE Scale [IHES]). In 5 studies, 581 undergraduates took the IHES together with an array of self-report personality measures. Three studies included a measure of hierarchy perception. According to prediction, people who expected interpersonal hierarchies were prone to perceive hierarchies in interactions and relationships. The IHES is an easy to apply, short, self-report measure that might prove useful in personnel training and selection as well as in other studies of personality and social behavior.

Usually, people assess others or the interactions they are involved in based on limited information. Especially when meeting strangers for the first time or when just catching a glimpse of a social interaction, the objective basis of their judgment is very slim (e.g., Ambady, LaPlante, & Johnson, 2001). Research has shown that in such ambiguous situations, subjective factors of the perceiver such as, for instance, his or her personality characteristics, are particularly likely to affect social judgment. For example, independent people have described an ambiguous social target as more independent than have dependent people (Catrambone & Markus, 1987; Green & Sedikides, 2001), and dominant people recalled more of a target’s assertive characteristics than did dependent people (Battistich & Aronoff, 1985). These findings suggest that characteristics of the perceiver influence social perception and especially so when uncertainty is involved and assumptions have to be made, which is routinely the case in first impression formation.

In these series of studies, I aimed to introduce a new individual difference construct, interpersonal hierarchy expectation (IHE) and to show that IHE predicts social perception. IHE is defined as expecting dominance hierarchies to be present or to form in interpersonal interactions or relationships. I predicted that individuals high on IHE would be prone to perceive particularly pronounced dominance hierarchies.

The importance of expectations for dominance hierarchy formation has been put forward by expectation states theorists (Berger, Fisek, Norman, & Zelditch, 1977). It is assumed that individuals share specific performance expectations for different group members (e.g., that women contribute less to a task solution than men). These performance expectations are based on external status cues (e.g., women are lower status than men). Through the mechanism of self-fulfilling prophecy, performance expectations affect person perception and as a consequence, the formation of a hierarchy within a group. As an example, if everybody expects women to talk less than men in a group, women will take the floor less often than men. Moreover, when a woman speaks up, she will be allocated less floor time by the others (e.g., she will be interrupted more frequently than a man). Additionally, a woman’s contributions might be valued less than a man’s. As a result, a woman’s actual performance (hence her position within the hierarchy) will be lower than a man’s. So far, research in the expectation states theory tradition has not addressed individual differences in expectations and perception. It has tacitly been assumed that all group members harbor specific performance expectations to the same degree. In this research, I take expectation states theory a step further by positing that individuals differ in how pronounced their expectations are and consequently how much these affect perception and behavior.

Note that perception can be (a) the result of being selectively attentive to certain stimuli, (b) a projection of expectations onto the stimuli, or (c) a matter of interpreting the stimuli in a particular fashion. Within the scope of this research, it was not possible to distinguish between these different aspects of perception. Therefore, perception is the term used to include all of them.
For this research, it is important to note that hierarchy and dominance are not the same. Dominance is an attribute of a single person, whereas hierarchy describes a social relationship among people. In this research, *dominance* is defined as having or striving for control or influence over another or as having privileged access to restricted resources. This broad definition encompasses status and power. *Hierarchy* is defined as dominance differences among group members. The more group members differ from each other in terms of dominance, the more hierarchically structured a group is (Schmid Mast, 2001, 2002). Every interpersonal interaction or social relationship can therefore be described in terms of how hierarchical it is.

Assessing individual levels of IHE is important and useful because it brings distinctive advantages. For instance, job applicants might be tested on how much they expect interpersonal relationships to be hierarchically structured to optimize the match between them and the existing hierarchical structure of a company. People with a pronounced IHE might not feel comfortable in egalitarian structures and vice versa. Also, in selecting top managers, identifying candidates who expect interpersonal hierarchies might be beneficial because their focus on hierarchies might make them more efficient in solving problems related to power struggles. To date, no measure of IHE exists. Therefore, I developed an eight-item self-report questionnaire assessing individual differences in IHE. The measure is called the IHE Scale (IHES; Table 1).

The concept of IHE is related to yet distinct from the concept of social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994). SDO stands for an individual difference indicating a preference for inequalities among social groups. The focus of this paper is, however, on inequalities within social groups, meaning interpersonal hierarchies and not societal hierarchies. It is, nevertheless, important to show that IHE, although most likely related to SDO, is a concept in its own right.

When interacting with strangers, men form more pronounced dominance hierarchies than women in same-gender groups, at least at the very beginning of their interactions (Schmid Mast, 2001, 2002). This might be due to men having a more pronounced IHE than women. I therefore predicted that men would score higher on IHE than women. Some support for this assumption can be derived from findings that showed that men prefer social groups to be different in power, whereas women have a preference for social groups to be equal in power (Pratto, Stallworth, & Sidanius, 1997).

Additionally, I predicted that IHE would correlate positively with personality dominance, authoritarianism, and personal need for structure (PNS). Dominant people most likely embrace hierarchies because chances are high (given their dominant personality) that they already are, or will end up, in high-status positions with many privileges. Authoritarian personalities are characterized by submissiveness to authorities (Adorno, Frenkel-Brunswick, Levinson, & Sanford, 1950). This necessitates the existence of dominance hierarchies. Expecting hierarchies is expecting structure, which might be reflected in a general cognitive style: a preference for things to be simple, organized, and unambiguous—called PNS (Neuberg, Judice, & West, 1997).

I predicted negative correlations between IHE and humanitarianism and between IHE and universal orientation. Humanitarianism-egalitarianism describes a democratic orientation including the adherence to ideals of equality and social justice entailing flat hierarchies (Katz & Hass, 1988). Universal orientation (Phillips & Ziller, 1997) describes people who focus on similarities rather than on differences between themselves and others. Expecting hierarchies is focusing on differences (in dominance or status) among group members.

Also, I predicted that self-esteem and social desirability both would be unrelated to IHE (discriminant validity). Research has shown that dominance and self-esteem are related (e.g., Leary, Cottrell, & Phillips, 2001). The IHE being unrelated to self-esteem would support the argument that IHE is different from dominance. Social desirability was included because it is possible that some items are perceived as rather aggressive or rude (e.g., “To get ahead in life, it is sometimes necessary to step on others”). Therefore, it could be socially more desirable not to agree with certain IHES items than to agree with them.

My goal in these series of studies was to test if (a) the IHES is a reliable and valid measure, (b) IHE is positively related to hierarchy perception, and (c) men have a more pronounced IHE than women.

### METHOD

I conducted five studies in which the IHES was used together with an array of different personality self-report measures (see Table 2) to examine convergent and discriminant validity. For predictive validity, two measures of hierarchy perception were included.

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**TABLE 1**

<table>
<thead>
<tr>
<th>Interpersonal Hierarchy Expectation Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If people work together on a task, one person is always taking over the lead.</td>
</tr>
<tr>
<td>2. Every group needs to have someone with extra power or authority to be sure things get done properly.</td>
</tr>
<tr>
<td>3. It’s probably a good thing that certain people are at the top and other people are at the bottom.</td>
</tr>
<tr>
<td>4. Usually, people are very happy when someone takes charge and lets them know how things should be done.</td>
</tr>
<tr>
<td>5. In general, it is necessary that certain people subordinate themselves to a leader.</td>
</tr>
<tr>
<td>6. To get ahead in life, it is sometimes necessary to step on others.</td>
</tr>
<tr>
<td>7. I feel more comfortable if I know the hierarchical structure of a group of people I am introduced to.</td>
</tr>
<tr>
<td>8. It is best if some people only contribute their ideas so that others can make decisions.</td>
</tr>
</tbody>
</table>

*Note.* The rating scale used ranged from 1 (disagree strongly) to 6 (agree strongly). There are no reverse-scored items.
Participants

Participants were undergraduate students from Northeastern University, Boston who received partial credit toward their course requirements. A total of 581 students participated in five studies. Table 3 shows the distribution of men and women in each study. The average age of the participants was 18.9 years, and 82% of the participants were White, 5% were Asian, 3% were African American, 3% were Indian, 2% were Hispanic, and 5% other (based on data collected for Samples 1 to 4; no data were available for Sample 5, but participants were drawn from the same participant pool).

Materials

**IHES.** The items of the IHES refer to expecting interpersonal interactions and relationships to be hierarchically organized (e.g., “If people work together on a task, one person is always taking over the lead”; Table 1). According to the definition of IHE, I made up all the items with one exception; the item “To get ahead in life, it is sometimes necessary to step on others” stems from the SDO questionnaire (Pratto et al., 1994, p. 760). There are no reverse-scored items. The IHES is scored by averaging across all items. A high score indicates a pronounced expectation for interpersonal hierarchies to form or to exist. Descriptive statistics and reliabilities for the IHES for all five studies can be found in Table 3.

### Perceived Status Hierarchy (Study 1)

Participants were presented with 47 candid photographs showing two university employees interacting and were asked to rate the status difference between the two people in each of the 47 photographs. There were 14 all-men dyads, 13 all-women dyads, and 20 opposite-gender dyads. The photographs came from an unrelated study (Hall, LeBeau, Reinoso, & Thayer, 2001) in which university employees were asked to interact in dyads while four candid photographs were taken. For this research, I randomly selected one of the four candid photographs from each dyad and I cut out the two people in the photograph to remove environmental cues that could influence participants’ judgments. Appearance cues such as clothing, age, gender, and race, however, were not omitted.

Participants were handed a photo album containing the 47 photographs (target Individual A always on the left-hand side and target Individual B always on the right-hand side) and rated the relative status of the two target people with respect to each other on a scale ranging from 1 (Person A is much higher status than Person B) to 5 (Person B is much higher status than Person A), with 3 as the middle point indicating no status difference. The absolute difference in perceived status between A and B was treated as an indicator of how much hierarchy was perceived. For each participant, these values were averaged across all 47 ratings (Perceived Status Hierarchy). The range of scores was 0.26 to 1.47 (theoretical range 0 to 2), with an average of 0.84 (SD = 0.21). Cronbach’s alpha of the Perceived Status Hierarchy measure was .82 in this study. Perceived Status Hierarchy was one of 48 study constructs and/or corresponding tests (see Table 2). The items of the IHES refer to expecting interpersonal interactions and relationships to be hierarchically organized (e.g., “If people work together on a task, one person is always taking over the lead”; Table 1). According to the definition of IHE, I made up all the items with one exception; the item “To get ahead in life, it is sometimes necessary to step on others” stems from the SDO questionnaire (Pratto et al., 1994, p. 760). There are no reverse-scored items. The IHES is scored by averaging across all items. A high score indicates a pronounced expectation for interpersonal hierarchies to form or to exist. Descriptive statistics and reliabilities for the IHES for all five studies can be found in Table 3.

### Table 3

<table>
<thead>
<tr>
<th>Study</th>
<th>N</th>
<th>F/M</th>
<th>M</th>
<th>SD</th>
<th>Range</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>106</td>
<td>65/41</td>
<td>3.56</td>
<td>0.71</td>
<td>1.38 to 5.25</td>
<td>.69</td>
</tr>
<tr>
<td>2</td>
<td>151</td>
<td>91/60</td>
<td>3.59</td>
<td>0.70</td>
<td>1.50 to 5.25</td>
<td>.71</td>
</tr>
<tr>
<td>3</td>
<td>153</td>
<td>106/47</td>
<td>3.46</td>
<td>0.76</td>
<td>1.38 to 5.63</td>
<td>.73</td>
</tr>
<tr>
<td>4</td>
<td>74</td>
<td>36/38</td>
<td>3.57</td>
<td>0.74</td>
<td>1.00 to 5.50</td>
<td>.78</td>
</tr>
<tr>
<td>5</td>
<td>95</td>
<td>46/26*</td>
<td>3.58</td>
<td>0.80</td>
<td>1.14 to 5.71</td>
<td>.74</td>
</tr>
</tbody>
</table>

Note. The rating scale used ranged from 1 (disagree strongly) to 6 (agree strongly). F = females; M = males; α = Cronbach’s alpha.

*23 unidentified.
two measures of hierarchy perception used in this research; the other was Projected Vertical Hierarchy.

Projected Vertical Hierarchy (Studies 3 and 4). Phillips and Ziller (1997) developed a measure of Nonhierarchy. Two different arrangements of five small circles were presented to participants. In one arrangement, the five small circles are arranged in a vertical line, and in the other arrangement, the five small circles are arranged in a larger circle. The five small circles represent people (e.g., a friend, yourself, someone of the opposite sex, a sad person, someone who is not American). Participants are asked to choose either the linear vertical arrangement of five small circles or the circular arrangement of five small circles and to place each of the given people in one of the five small circles. Participants are instructed to choose only one of the two arrangements (vertical or circular) to do so. The Nonhierarchy measure comprises four such questions each time with different people to be placed in the small circles. The scoring consists of simply counting how many times a participant chose the large circular arrangement over the vertical arrangement (0 to 4).2 Because this study focused on hierarchy, the scores were reversed, signifying how many vertical arrangements were selected (Projected Vertical Hierarchy). For both Studies 2 and 3, the range was 0 to 4, with an average of 1.14 for Study 2 (SD = 1.42) and 1.38 for Study 3 (SD = 1.57). Participants are assumed to project the way they perceive interpersonal relationships onto the task. Selecting the vertical arrangement more often than the circular one was therefore treated as an indicator of perceived hierarchy.

Personality measures. Different personality questionnaires were used to examine convergent and discriminant validity of the IHES (Table 2). Appendix A contains the description of each of the questionnaires, and Appendix B displays the descriptive information of all scales together with their corresponding Cronbach’s alphas.

Procedure

In each study, the IHES was completed together with an array of self-reported personality measures. Three studies (Studies 1, 3, and 4) included a hierarchy perception measure. Participants were either tested in small groups (5 to 12 people) or individually. All self-report questionnaires were administered in random order at the end of each study. Table 2 presents an overview of the measures used and the order in which they were administered.

All reported p values are one-tailed because directional predictions were made. In this section, I focus on thematically integrating the findings across studies. Because many of the measures showed gender differences, partial correlations (pr), controlling for gender, were calculated.

Table 4 (Effect Size column) shows that according to prediction, SDO, personality dominance (CPI Dominance and FIRO–B Control), and PNS were significantly positively and humanitarianism-egalitarianism was significantly negatively related to IHE (convergent validity). Also according to prediction, self-esteem and social desirability were unrelated to IHE (discriminant validity). Because authoritarianism and universal orientation yielded low Cronbach’s alphas, these two measures were excluded from all analyses.

It is important to show that despite IHE being related to certain other variables (SDO, personality dominance, PNS, and humanitarianism-egalitarianism), it is a construct in its

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Study</th>
<th>df</th>
<th>pr</th>
<th>Effect Size (pr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social dominance orientation</td>
<td>3</td>
<td>151</td>
<td>.32***</td>
<td>.32***</td>
</tr>
<tr>
<td>(single study)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPI Dominance (single study)</td>
<td>1</td>
<td>103</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>CPI Dominance (single study)</td>
<td>3</td>
<td>150</td>
<td>.18*</td>
<td></td>
</tr>
<tr>
<td>CPI Dominance (single study)</td>
<td>4</td>
<td>71</td>
<td>-.01</td>
<td></td>
</tr>
<tr>
<td>CPI Dominance (the three preceding studies combined)</td>
<td></td>
<td></td>
<td></td>
<td>.11*</td>
</tr>
<tr>
<td>FIRO–B Control (single study)</td>
<td>1</td>
<td>102</td>
<td>.33**</td>
<td></td>
</tr>
<tr>
<td>FIRO–B Control (single study)</td>
<td>4</td>
<td>71</td>
<td>.35**</td>
<td></td>
</tr>
<tr>
<td>FIRO–B Control (the two preceding studies combined)</td>
<td></td>
<td></td>
<td></td>
<td>.34****</td>
</tr>
<tr>
<td>Personal need for structure</td>
<td>5</td>
<td>67</td>
<td>.27*</td>
<td>.27*</td>
</tr>
<tr>
<td>(single study)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanitarianism-egalitarianism</td>
<td>3</td>
<td>150</td>
<td>-.22**</td>
<td></td>
</tr>
<tr>
<td>(single study)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humanitarianism-egalitarianism</td>
<td>4</td>
<td>71</td>
<td>.03</td>
<td>-.14*</td>
</tr>
<tr>
<td>(the two preceding studies combined)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem (single study)</td>
<td>3</td>
<td>149</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Self-esteem (single study)</td>
<td>5</td>
<td>67</td>
<td>-.10</td>
<td></td>
</tr>
<tr>
<td>Self-esteem (the two preceding studies combined)</td>
<td></td>
<td></td>
<td></td>
<td>-.01</td>
</tr>
<tr>
<td>Social desirability (single study)</td>
<td>2</td>
<td>146</td>
<td>-.04</td>
<td>-.04</td>
</tr>
</tbody>
</table>

Note. Entries are partial correlations (pr, controlled for gender). Effect sizes refer either to single studies (prs) or to the combination of the single studies available for a specific construct. Entries for combined studies are weighted (by sample size) mean prs (Rosenthal, 1991; Rosenthal & Rubin, 1982) and overall statistical significance for the combined effect sizes was calculated according to a fixed effects approach (Stouffer method, Rosenthal, 1991). IHES = Interpersonal Hierarchy Expectation Scale; CPI = California Psychological Inventory; FIRO–B = Fundamental Interpersonal Relation Orientation–Behavior.

*p < .05, **p < .01, ***p < .001, ****p < .0001.

2On the Projected Vertical Hierarchy measure, only total scores across the four items were assessed for data entry. Therefore, Cronbach’s alpha could not be calculated.
own right. This is accomplished if it can be shown that IHE controls for additional variance in some variable (e.g., perceived hierarchy) over and above the variance accounted for by another related variable (e.g., SDO). If the correlation between IHE and an additional variable (e.g., perceived hierarchy) remains similar even after the variable related to IHE (e.g., SDO) is controlled for (partial correlation), it can be assumed that IHE is conceptually different from the related variable. More specifically, a partial correlation (controlling for gender and SDO) between IHE and Projected Vertical Hierarchy (Study 3) was calculated and yielded \( pr(143) = .14, p < .045 \). This result is similar to the relation between IHE and Projected Vertical Hierarchy without controlling for SDO (\( pr = .16 \)). A partial correlation (controlling for gender and CPI dominance) between IHE and Projected Vertical Hierarchy (Study 3) was calculated and yielded \( pr(143) = .16, p = .027 \), which is similar to the corresponding result without controlling for CPI Dominance (\( pr = .16 \)). A partial correlation (controlling for gender and FIRO–B Control) between IHE and Perceived Status Hierarchy (Study 1) was calculated and yielded \( pr(101) = .21, p = .016 \). This result is similar to the relation between IHE and Perceived Status Hierarchy without controlling for FIRO–B Control (\( pr = .19 \)). Also, a partial correlation (controlling for gender and humanism-egalitarianism) between IHE and Projected Vertical Hierarchy (Study 3) was calculated and yielded \( pr(143) = .15, p = .032 \), which is similar to the corresponding result without controlling for humanism-egalitarianism (\( pr = .16 \)). These analyses show that IHE is conceptually different from SDO, personality dominance, and humanism-egalitarianism and is therefore a concept in its own right.

To test whether IHE was positively related to perceiving interpersonal interactions and relationships as hierarchically organized (hierarchy perception), two different measures of hierarchy perception (Perceived Status Hierarchy and Projected Vertical Hierarchy) were included in 3 studies (Studies 1, 3, and 4). Results showed that IHE was significantly positively related to Perceived Status Hierarchy (Study 1), \( pr(103) = .19, p = .025 \). Moreover, IHE was also significantly positively related to Projected Vertical Hierarchy in Study 3, \( pr(144) = .16, p = .024 \) and in Study 4, \( pr(62) = .24, p = .028 \). To provide further information about the magnitude of the relation between IHE and hierarchy perception, both hierarchy perception measures were combined meta-analytically. Mean \( prs \) and weighted (by sample size) mean \( prs \) were calculated (Rosenthal, 1991; Rosenthal & Rubin, 1982). The mean \( pr \) was .20 and the weighted mean \( pr \) was .19. Confirming the prediction, self-reported differences in IHE had real world implications in terms of interpersonal perception. Concomitantly, this positive relation showed predictive validity for the newly developed I Hayes.

I hypothesized that men had a more pronounced IHE than women. Table 5 shows that men scored significantly higher on the I Hayes than women in Study 1, Study 3, and marginally so in Study 4. Interestingly, men scored higher than women in all studies. When combined across all studies, the mean Cohen’s (1988) \( d \) was .26. The overall gender difference was a significant effect according to the fixed effects approach, \( Z = 3.00, p < .0013 \). Overall, men scored higher on the I Hayes than women.

### DISCUSSION

IHE is the expectation that interpersonal interactions and relationships are organized in a hierarchical way, with some people at the top and some people at the bottom of the hierarchy. The results showed that IHE is a concept that can reliably and validly be measured by the eight-item I Hayes. According to prediction, IHE was positively related to SDO, personality dominance, and PNS and negatively related to humanism. IHE was unrelated to self-esteem and social desirability. Partial correlation analyses showed that IHE—although related to each of the preceding constructs—was conceptually different from them so that IHE can be considered a construct in its own right. Moreover, this research showed that people with a pronounced IHE see social interactions through a hierarchy lens, meaning that they perceive social interactions and relationships as hierarchically organized. Also, men scored higher on the I Hayes than women.

IHE predicts how social interactions and relationships are perceived: Expecting hierarchies was related to a proneness to perceive interpersonal interactions as hierarchically structured. Although the overall effect (\( M r = .20 \)) was not large (Cohen, 1988) it has to be noted that real-world implications were predicted based on a short self-report measure. This result does not seem trivial. It has to be kept in mind that self-report measures usually only correlate poorly with more implicit measures of the same construct (e.g., Greenwald, & Banaji, 1995; Greenwald, McGhee, & Schwartz, 1998; Skowronski, & Lawrence, 2001) because there is no shared variance due to methodological overlap. Indeed, the two measures of perceived hierarchy used in this study were methodologically very different to the I Hayes, with none relying on verbal self-report.

In daily life, people form impressions about strangers almost automatically, although they typically have very lim-
According to Rosenthal, 1991). Research has shown that in such ambiguous situations, personality characteristics or expectations of the perceiver affect person perception (Battistich & Aronoff, 1985; Catrambone & Markus, 1987; Green & Sedikides, 2001). This is in line with the results from this research: The more individuals expect hierarchies to be omnipresent (high IHE), the more they perceive interpersonal structures as pecking orders (perceived hierarchies).

The relation between IHE and perceived hierarchy shows that individual differences in how people expect the world to be shape the way they perceive. This idea was put forward by expectation states theorists (Berger et al., 1977): Shared performance expectations of group members become self-fulfilling prophecies in that they shape the way other group members are perceived and acted on and—ultimately—on how hierarchies are formed. This research expands expectation states theory in that it suggests the existence of individual differences in the extent to which people harbor specific expectations—in this case, expectations about the hierarchical structure within a group. Moreover, this research showed that these differences in hierarchy expectation are related to differences in person perception. Thus, future research in the expectation states theory tradition could address the question of how individual differences in performance expectations affect the formation of hierarchies.

Overall, men scored higher on the IHEs than women did (consistently so in each study). Note, however, that the difference was relatively small and should therefore not be overinterpreted.

The relation of IHE with personality dominance is interesting because its magnitude was affected by the kind of personality dominance measure used. CPI dominance showed a notably smaller relation with IHE than did FIRO–B control.3 By looking at the items, one can see that the CPI dominance is more of a leadership measure, whereas the FIRO–B control assesses the more controlling aspect of dominance. CPI dominance stands for dominance as responsibility for others, whereas the FIRO–B control stands for dominance as control over others. I predicted that dominant individuals would be more prone to expect hierarchies (higher in IHE) because they embrace hierarchies to maintain or extend their privileges. This might have been more true for control-dominant people but much less so for responsibility-dominant people. It is possible that responsibility-dominant people rely less on hierarchical structures and more on the approval of the less dominant people to maintain their high-dominant positions. This could explain why they were less attuned to hierarchies and therefore not necessarily high (or low) in IHE.

Although in this research, I did not test whether people in high-dominance positions have a more pronounced IHE than people in low-dominance positions, the positive relation between personality dominance (especially dominance as control over others) and IHE might imply such a relation. If such a positive association exists, it would be interesting to find out whether a strong IHE helps a person to attain a high-dominance or leadership position or whether the possession of a high-dominance or leadership position brings about a more hierarchically structured view of the world and more specifically of social interactions. There was evidence that striving for dominance individuals (defined as being in a low-dominance position and wanting to be in a high-dominance position) behave relatively dominantly (Schmid Mast & Hall, 2003). Future research could address the question of whether people who are striving for a high-dominance position have a particularly pronounced IHE. In a related vein, maybe people high in IHE have more direct career paths because they might try to get themselves known by the high-status people (for instance, to increase their chances for a promotion). Moreover, high-IHE people might rely specifically on status information about others in their strategic planning. For instance, they might be more likely to help a high-status person than a low-status person, and they might be especially focused on networking.

There are a number of limitations associated with this work. Although there was evidence for convergent and discriminant validity of the IHE when looking at the results from the combined studies, the single studies not always supported the predictions (Table 4). Also, there are some reservations about validating the IHE with the Perceived Status Hierarchy measure because apart from high face validity, the latter is not a validated instrument either. The correlation between two nonvalidated measures does not provide strong support for the validity of either.

Moreover, all participants were undergraduate students, and it would be interesting to see whether in a different population the results would be the same. For instance, it might be the case that undergraduate students are not concerned with hierarchies to the same extent as people in the workforce because students mostly interact with their equal-status peers. Thus, they might consider the hierarchy topic irrelevant for them and score low on the IHE as a consequence.

Another limitation that might be addressed in future research is the impact of IHE on behavior in interpersonal interactions. Although in these series of studies, I have investigated how IHE is related to the perception of social interactions, I did not look at how IHE affects interpersonal behavior. It is conceivable, for instance, that in groups in which everybody scores high on IHE, hierarchies are formed much quicker than in groups in which everybody scores low on IHE. If each group member expects social interactions to be hierarchical (high on IHE), such groups might indeed form hierarchies more easily through a self-fulfilling prophecy mechanism (expectation states theory; Berger et al., 1977).

3The strength of the relation between IHE and CPI dominance was indeed significantly smaller than the relation between IHE and the FIRO–B Control scale, Z = 2.78, p < .01 (contrast analyses according to Rosenthal, 1991).
Additionally, future research could address how IHE affects management style, employee selection, or physician–patient interaction. This research is only a first step into that direction. The introduction of the construct of IHE with an easy to apply self-report measure (IHES) opens new avenues in research on social perception and interpersonal interaction.

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REFERENCES


APPENDIX A

Description of the Self-Report Measures Used to Validate the IHES (Same Order As in Text)

Descriptive information of all measures can be found in the table in Appendix B.

Social Dominance Orientation (Pratto, Sidanius, Stallworth, & Malle, 1994; Study 3). The preference for inequality among social groups is assessed with 14 items. Participants indicate how positively or negatively they feel about a statement on a scale ranging from 1 (very negative) to 7 (very positive). Sample items are “Some groups of people are simply not equals of others” or “It is important that we treat other countries as equals” (reversed scored). Higher values indicate more approval of the belief that some groups are superior to others.
California Psychological Inventory (CPI) Dominance Scale (Gough, 1975; Studies 1, 3, and 4). One of the most widely used dominance assessment tools is the Dominance scale of the CPI. People who score high on the CPI Dominance are confident, assertive, dominant, and task oriented (Gough, 1975). The questionnaire consists of 36 items. Participants indicate whether a given statement is true or not true about them. Note that in Study 1, a scale ranging from 1 (disagree strongly) to 6 (agree strongly) was used instead of the true–false response format. Sample items are “If given the chance I would make a good leader of people” or “I dislike to have to talk in front of a group of people” (reversed scored). Higher values on the CPI Dominance indicate being more dominant.

Fundamental Interpersonal Relations Orientation–Behavior (FIRO–B) Control scale (Schutz, 1958; Studies 1 and 4). The Control Expressed scale of the FIRO–B consists of nine items on a Guttman scale (therefore, no Cronbach’s alpha could be reported) that measure the amount of control a person likes to exert over others. Sample items are “I try to have other people do things I want done” or “I try to influence strongly other people’s actions.” Schutz (1966) reported a test–retest reliability correlation of .93 for the FIRO–B Control Expressed scale. Higher values on the FIRO–B indicate having more control over others.

Authoritarianism (Study 3). The counterbalanced F Scale (Lee & Warr, 1969) is a measure to assess authoritarianism with positively and negatively formulated items. An authoritarian personality is characterized by racial prejudice and obedience to authority. The counterbalanced F Scale has 30 items, each to be rated on a scale ranging from 1 (disagree strongly) to 6 (agree strongly). Sample items are “It is only natural and right for each person to think that his family is better than any other” or “Most censorship of books or movies is a violation of free speech and should be abolished” (reversed scored). Due to the low reliability of the scale, it was not included in further analyses.

Personal Need for Structure Scale (Neuberg, Judice, & West, 1997; Study 5). This scale measures how likely individuals are to engage in structuring their world in a simple manner, behaviorally and cognitively. The 11 items of the scale are scored on a scale ranging from 1 (strongly disagree) to 6 (strongly agree). Scale items include “I like to have a place for everything and everything in its place” and “I enjoy the exhilaration of being in unpredictable situations” (reversed scored). Higher values indicate more desire to structure the world in a simple manner.

Humanitarianism-Egalitarianism Scale (Katz & Hass, 1988; Studies 3 and 4). This scale measures “adherence to the democratic ideals of equality, social justice, and concern for the others’ well-being” (Katz & Hass, 1988, p. 894). The 10 Likert-type items on the scale are scored on a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). Sample items are “A person should be concerned about the well-being of others” or “There should be equality for everyone—because we are all human beings.” Higher values indicate a more humanitarian-egalitarian orientation.

Universal Orientation Scale (Phillips & Ziller, 1997; Study 2). This scale serves as a measure of preference toward others, focusing on self–other similarities, rejection of categorization, and integration of self with others. The 20-item measure uses a scale ranging from 1 (does not describe me very well) to 5 (describes me very well). Sample items include “I tend to value similarities over differences when I meet someone” and “Little differences among people can mean a lot” (reversed scored). Due to the low reliability of the scale, it was not included in further analyses.

Rosenberg’s Self-Esteem Scale (Rosenberg, 1965; Samples 3 and 5). This scale was designed to measure feelings of global self-worth and self-acceptance. The 10 Likert-type items are scored on a scale ranging from 1 (strongly disagree) to 4 (strongly agree). Sample items include “On the whole, I am satisfied with myself” and “I feel I do not have much to be proud of” (reversed scored). Higher values indicate more self-esteem.

Social desirability (Study 2). The Marlowe–Crowne Social Desirability Scale (Crowne & Marlowe, 1960) was used to assess how socially desirable a person answers questions about themselves, and more specifically, how much a person responds to situational demand. Test takers are asked to decide whether each of the 33 statements is true or false as it pertains to them. Sample items are “I’m always willing to admit when I make a mistake” or “I like to gossip at times” (reversed scored). Higher values indicate more social desirability.
### Descriptive Information of Self-Report Measures (Appendix A)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Study</th>
<th>Total N</th>
<th>All M</th>
<th>All SD</th>
<th>Men M</th>
<th>Men SD</th>
<th>Women M</th>
<th>Women SD</th>
<th>Cronbach’s α</th>
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<tr>
<td>Social Dominance Orientation</td>
<td>3</td>
<td>152</td>
<td>2.62</td>
<td>1.06</td>
<td>3.11</td>
<td>1.27</td>
<td>2.40</td>
<td>0.88</td>
<td>.91</td>
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<tr>
<td>CPI Dominance&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1</td>
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<td>0.46</td>
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<td>0.40</td>
<td>.73</td>
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<tr>
<td>CPI Dominance&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3</td>
<td>153</td>
<td>0.61</td>
<td>0.17</td>
<td>0.63</td>
<td>0.16</td>
<td>0.60</td>
<td>0.17</td>
<td>.82</td>
</tr>
<tr>
<td>CPI Dominance&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4</td>
<td>74</td>
<td>0.61</td>
<td>0.16</td>
<td>0.61</td>
<td>0.18</td>
<td>0.62</td>
<td>0.17</td>
<td>.83</td>
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<tr>
<td>FIRO–B Control</td>
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<td>106</td>
<td>2.00</td>
<td>1.99</td>
<td>2.29</td>
<td>2.20</td>
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<td>1.85</td>
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<tr>
<td>FIRO–B Control</td>
<td>4</td>
<td>74</td>
<td>2.94</td>
<td>2.53</td>
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<td>2.67</td>
<td>2.46</td>
<td>.93&lt;sup&gt;b&lt;/sup&gt;</td>
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<tr>
<td>Authoritarianism&lt;sup&gt;c&lt;/sup&gt;</td>
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<td>152</td>
<td>3.32</td>
<td>0.48</td>
<td>3.33</td>
<td>0.49</td>
<td>3.31</td>
<td>0.48</td>
<td>.47</td>
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<tr>
<td>Personal need for structure</td>
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<td>95</td>
<td>2.38</td>
<td>0.70</td>
<td>2.46</td>
<td>0.67</td>
<td>2.32</td>
<td>0.71</td>
<td>.79</td>
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<tr>
<td>Humanitarianism-egalitarianism</td>
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<td>4.69</td>
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<td>4.40</td>
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<td>Universal orientation&lt;sup&gt;c&lt;/sup&gt;</td>
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<td>.88</td>
</tr>
<tr>
<td>Self-esteem</td>
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<td>0.49</td>
<td>3.35</td>
<td>0.53</td>
<td>3.40</td>
<td>0.48</td>
<td>.87</td>
</tr>
<tr>
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<td>0.12</td>
<td>0.44</td>
<td>0.16</td>
<td>.74</td>
</tr>
</tbody>
</table>

Note.  
CPI = California Psychological Inventory; FIRO–B = Fundamental Interpersonal Relations Orientation–Behavior.  
<sup>a</sup>Response format for CPI Dominance in Study 1 used a scale ranging from 1 (disagree strongly) to 6 (agree strongly), whereas in Studies 3 and 4, a true–false response format was used.  
<sup>b</sup>Reliability stems from the literature (Schutz, 1966) and is a test–retest reliability correlation.  
<sup>c</sup>Scales not included in further analyses because of low reliability.

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