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Cultural Similarities and Differences in Judgments of Rapport

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Abstract

Rapport is a fundamental building block of human relationships across cultures; yet, there is still a dearth of systematic, cross-cultural research on this important topic. This study contributes to a small but growing literature on the nature of rapport across cultures by examining judgments of rapport by observers from different culture/language groups of interactions involving investigative interviews conducted in different languages. Observers from four culture/language groups (English, Spanish, Arabic, and French) rated rapport in nine video clips consisting of three interview languages (English, Spanish, and French) and three segments within each interview. Findings demonstrated that rapport judgments reduced to a bidimensional model of positivity and negativity across the observer culture/language groups; that considerable cultural similarities in rapport judgments existed across the ebb and flow of the interviews; and that there were some possible cultural differences in rapport judgments and the constructs contributing to those judgments, notably French observers' judgments of mutual respect and seriousness. These findings suggested both major similarities and potential differences in judgments of rapport across cultures.

Keywords

culture, rapport, investigative interviews, positivity, negativity

Cultural Similarities and Differences in Judgments of Rapport

The importance of rapport in human interactions is not debated, as it is a fundamental building block of relationships. Across cultures, classic work on rapport by Spencer-Oatey and colleagues (Spencer-Oatey, 2002, 2005) has demonstrated its importance in interpersonal interactions.

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Spencer-Oatey (2002), for instance, analyzed rapport-sensitive incidents to identify relational management concerns of Chinese and British individuals in their everyday lives; the concerns included face and rights; autonomy and costs–benefits; association and autonomy; and interpersonal, intergroup, and intragroup orientations. Spencer-Oatey and Jiang (2003) identified three interactional concerns among Chinese and British participants: concerns for task, clarity, and face/rapport. Chan and colleagues (2004) studied interactional concerns among Hong Kong Chinese and Filipinos in relation to service encounters (e.g., with librarians in a library, technicians in a computer room) and reported that rapport promotion was the only consistent concern to emerge in both cultural groups. These and other findings have lent themselves to Spencer-Oatey's (2005) rapport management theory, suggesting that rapport is a crucial factor in any interaction across cultures, extending beyond politeness.

Beyond questions about its importance, however, are many others concerning the nature, structure, and functions of rapport. Seminal research (reviewed below) has shed light on many of its critical features; yet, cross-cultural research examining these questions is still limited. This study contributes to a small but growing literature on the nature of rapport across cultures by examining judgments of rapport by observers from different culture/language groups of interactions involving investigative interviews conducted in different languages.

Seminal Research and Theory on Rapport

The therapeutic literature was likely the first to highlight the importance of rapport because the therapist–client relationship has been characterized in ways associated with rapport. Bordin (1979, 1983), for example, described the concept of "working alliance," which involved three components—tasks, bonds, and goals. This framework was later extended by Horvath and Greenberg (1989) in their development and validation of a measure of working alliance. In this literature, the concept of working alliance also came to be known as the therapeutic alliance (Gaston et al., 1995).

In nontherapeutic literature, Bernieri's work stands as the benchmark for studies examining the nature of rapport (Bernieri et al., 1994, 1988; Bernieri & Gillis, 1995; Grahe & Bernieri, 1999, 2002). For instance, Bernieri et al. (1988) emphasized the role of behavioral synchrony in their study of mother–infant genuine and pseudointeractions; they also suggested the importance of identifying other components of rapport and the need for assessing rapport from different sources, such as third parties' and self-ratings. Extending these ideas, Grahe and Bernieri (2002) suggested assessing rapport in two cue domains—subjective (i.e., judgments or ratings of agreeableness, dominance, expressivity, mutual involvement, nervous behaviors, positivity, and synchrony) and objective (i.e., actual behavior such as back-channel responses, eye contact, forward lean, silence, frequency of posture shifts, proximity, and nonverbal synchrony). Across their studies, Bernieri and colleagues concluded that coordination and synchrony were important components of rapport, and they operationalized rapport as "positivity" according to interactants' self-reports.

Much of Bernieri and colleagues' work (Bernieri et al., 1994, 1988; Bernieri & Gillis, 1995; Grahe & Bernieri, 1999, 2002) was based on prior research and conceptualizations about rapport by Tickle-Degnen and Rosenthal (1987a, 1990) that posited three core components of rapport: mutual attentiveness (interest, focus), positivity (positive behaviors, friendliness, warmth), and coordination (balance, harmony). These authors also suggested that positivity may be more important at the beginning of an interaction while coordination was relatively more important later. Subsequent work has also made substantial efforts in theoretically and methodologically identifying different components of rapport (Dutton & Heaphy, 2003; Spencer-Oatey, 2005; Spencer-Oatey & Xing, 2003; Trout & Rosenfeld, 1980; Vacharkulksemsuk & Fredrickson, 2012).

Research and Theory on Rapport in Investigative Contexts

Although dormant for a number of years, research on rapport has increased in the past two decades in the area of investigative interviewing, demonstrating the importance of rapport in nonconfrontative, evidence-based investigative interviewing (Abbe & Brandon, 2013, 2014; Alison et al., 2013, 2014; Brimbal, Dianiska, et al., 2019; Brimbal, Kleinman, et al., 2019; Collins & Carthy, 2019; Driskell et al., 2013; Duke et al., 2018; Matsumoto & Hwang, 2021; Walsh & Bull, 2012). For example, Matsumoto and Hwang (2021) assessed rapport ratings provided by interviewers, interviewees, and third-party coders of investigative interviews involving U.S. Americans and Chinese- and Hispanic-immigrant interviewees. Third-party codes of rapport and interviewer ratings were associated with each other and with greater information gains in the interview. Working alliance (as a coded rapport component) was also consistently and positively associated with relevant information produced by the three cultural/ethnic groups of interviewees. Interviewees' ratings, however, were not associated with the other two sources of rapport data or with information produced.

Conceptual work in investigative contexts has also increased the field's understanding of rapport. Kleinman (2006) suggested that rapport—expressed as operational accord—was necessary for information gains and defined operational accord as a shared understanding about interactional goals. Abbe and Brandon (2013, 2014) expanded on the concepts of operational accord and working alliance as methods of conceptualizing rapport in investigative contexts and emphasized the importance of rapport strategies across groups, especially across cultures. They also proposed specific sources or elements of rapport such as active listening, linguistic and nonverbal mimicry, immediacy, and common ground that initiate and develop rapport, and they reiterated the role of coordination as an important component of rapport. Separately, Chartrand and Lakin's (2013) work on mimicry also mentioned its potential associations with rapport. These rapport conceptualizations enhanced the field's understanding of rapport while at the same time acknowledging elements of rapport previously discussed.

Cultural Similarities and Differences on the Nature and Function of Rapport

Research and theory reviewed above have provided a wealth of evidence and conceptualizations about rapport; yet, relatively little is known about the nature and function of rapport across cultures. For instance, questions exist concerning cultural similarities and differences in the structural components of rapport or whether rapport functions the same way across cultures. Only a handful of studies have examined these important questions, to which we now turn.

The earliest study of cultural differences in rapport was that of Bernieri and Gillis (1995), who obtained ratings from Greek and U.S. observers of video clips of dyadic interactions. Interactants' self-reported rapport and 17 behaviors in the videos were coded separately. Observers made two ratings that were merged into a single composite judgment of rapport (essentially positivity); results indicated that the Americans and Greeks had similar within-group consensuses in their ratings and that their ratings were mostly correlated with the same behaviors that were coded from the videos.

Since that classic study, subsequent research on rapport has been conducted in investigative interview contexts and has examined the role of culture in a couple of ways. One has been to examine cultural differences in the structure of rapport ratings, testing whether cultures differ in the latent factors underlying such ratings. Matsumoto and Hwang's (2021) study mentioned previously examined this question by obtaining third-party codes of rapport in the interviews involving the three culture/ethnic groups of interviewees. Coding was done on four items representing previous conceptualizations of the components of rapport proposed by Tickle-Degnen and Rosenthal (1987b), Abbe and Brandon (2013), and Kleinman (2006). Analyses produced a

single-factor structure that was similar across the three culture/ethnic groups. Moreover, for the most part, coded rapport was similarly associated with information produced across the three culture/ethnic groups.

A subsequent study (Wilson et al., 2022) extended those findings. Observers from three culture/language groups (U.S. English, Spanish, and Arabic) observed videos of the interviews involving interviewees from the three culture/ethnic groups used in Matsumoto and Hwang (2021) and rated them using 11 items (the same items used in this study, described in "Methods" section). The items were derived from various components and elements of rapport reported in previous research and theory (Abbe & Brandon, 2013, 2014; Bernieri, 1988; Bernieri et al., 1994; Bernieri & Gillis, 1995; Kleinman, 2006) operationalizing the concepts of mutual attentiveness, coordination and synchrony, working alliance and operational accord, and overall rapport. Analyses produced a two-factor structure labeled Positivity and Negativity in each observer culture/language group and for the total group. Items assessing mutual respect, coordination, or attention loaded on the former, while items assessing disengagement or hesitation loaded on the latter. Scale scores based on these two factors were associated with the third-party rapport codes of the videos previously obtained, with a few exceptions. These findings indicated that naïve observers across very different culture/language groups considered rapport along a bidimensional model and that those naïve ratings mirrored rapport coded by third-party coders.

Overview of the Current Study and Hypotheses

The purpose of this study was to replicate and extend the findings reported by Wilson et al. (2022) by making three methodological improvements:

1. *Use of videos of actual investigative interviews*. The previous study utilized archival videos that were produced in experiments. In this study, we utilized videos from actual investigations that were available in open sources on the internet.
2. *Use of videos with different languages*. In the previous study, all videos were of interviews conducted in English; thus, non-English-speaking observers knew that the interviews were not from their native culture. Here, we utilized videos of interviews conducted in English, Spanish, and French.
3. *Use of a balanced design*. In this study, we recruited observers who were native speakers of English, Spanish, and French to examine differences in their ratings as a function of their observations of interactions in their native language (i.e., to examine a possible ingroup bias in ratings; see Elfenbein & Ambady, 2002; Matsumoto, 2002). For good measure, we also included an Arabic-speaking group of observers as well.

Observers from four culture/language groups rated nine video clips—English, Spanish, and French language videos at three different points (segments) in time for each—and rated each video clip on the same 11 items used in Wilson et al. (2022), which allowed for a direct comparison of findings. We hypothesized that culture would moderate the structure of the rapport ratings; that is, there would be cultural differences in the interrelationships among the items rated. We further hypothesized that there would be cultural differences in judgments of rapport across the interview segments.[1]

Method

Design

The study was a mixed factorial design including observers from four cultural/language groups (U.S Americans/English, Hispanic/Spanish, Egyptian/Arabic, and French) rating nine video clips

consisting of three interview languages (English, Spanish, and French) and three segments within each interview. Thus, the study involved a four (Observer Language) by three (Interview Language) by three (Interview Segment) mixed factorial design. The dependent variables were 11 ratings made on each video clip. All procedures were conducted with the approval of an institutional review board.

Participants

Observers were recruited by local collaborators in each nation culture whose official language was one of the target languages: English-speaking observers were recruited from the San Francisco Bay Area; Spanish-speaking observers were recruited in Toledo, Spain and La Paz, Bolivia; Arabic-speaking observers were recruited in Menoufia, Egypt; and French-speaking observers were recruited in Bordeaux, France. In all nation cultures, observers were recruited in one of three ways: (a) using online ads for paid participants and posted flyers that asked participants to visit a laboratory; (b) in the case of university instructors outside the United States, by recruiting volunteers from classes; or (c) recruiting volunteers at meetings of clubs and other social organizations. We also recruited participants from Amazon Mechanical Turk using standard recruitment procedures outlined there (mturk.com) utilizing the criteria described above. The final sample was comprised of $N = 1{,}032$, of which $n = 213$ were English-speaking observers (107 women, 106 men, $M_{age} = 35.51$, $SD = 10.64$), $n = 214$ were Spanish-speaking observers (69 women, 145 men, $M_{age} = 32.00$, $SD = 10.75$), $n = 483$ were Arabic-speaking observers (383 women, 100 men, $M_{age} = 19.57$, $SD = 1.23$), and $n = 122$ were French-speaking observers (56 women, 65 men, $M_{age} = 23.35$, $SD = 10.00$).

Measures

Observers were asked to report the degree to which they were currently feeling 15 emotion terms (guilt, fear, anger, embarrassment, worry, contempt, excitement, disgust, amusement, nervousness, surprise, interest, sadness, pride, and shame) using 9-point scales labeled 0, *none*; 4, *moderate amount*; and 8, *extremely strong amount*. Observers also completed a demographics assessment that included questions on sex, age, ethnicity, student status, education, religion, places of birth, and upbringing and language proficiency; the Interpersonal Awareness Subscale (Boyce & Parker, 1989); and the Intercultural Adjustment Potential Scale Emotion Regulation Subscale (Matsumoto et al., 2001, 2003, 2004). These measures were part of a different effort and no further mention of them will be made here.

Stimuli

We searched for open-source videos available publicly online that were actual investigative interviews in the three target languages (English, Spanish, and French). Our initial search resulted in a total of 37 videos (22 English, 10 Spanish, and five French). We then filtered videos with the criteria that (a) the videos included the full interview from beginning to end; (b) there was only one interviewer; (c) both interviewer and interviewee were in the video image the entire time; (d) the videos did not include commercial markers; and (e) the technical quality of the videos was good enough to view both interviewer and interviewee.

For each potential video, we identified breaks in the interviews (i.e., times when the interviewer stopped the interview and left the room and came back) to calculate a total time of interaction. Because the purpose of the study was to examine rapport judgments at multiple times within the same interview, we then roughly identified three different phases of each interview, to the extent possible, that included (a) initial contact between the interviewer and

interviewee or beginning of the interaction, (b) when the interviewer begins to engage with the interviewee about an incident, and (c) when the interviewer questions the interviewee about the latter's statements about the incident. The three segments of each video approximated the beginning of the interview, one third of the way through the video, and two thirds of the way through the video.[2] These criteria resulted in the use of three interview videos, one in each target language:

English interview: Interview of an individual named Rocky Rambo Wei Nam Kam, who was convicted of killing a Vancouver couple inside their home and was given a life sentence with 25 years before parole eligibility.
Spanish interview: Interview of an individual named Armando Botell, who pled guilty of killing a woman in 2019.
French interview: Interview of an individual named Rejean Lafreniere. No information about the case was found online.

We then extracted video clips of the three segments from each interview. The extracted video clips were approximately 60 s each (each video clip stopped at the end of a sentence, resulting in slightly different video clip durations) and contained no references to graphic or obscene images or acts. Thus, nine video clips (three interview languages × three segments/video) were used in the study.

Observer Judgment Tasks

Observers rated each video clip on 11 items using an 11-point scale anchored 0, *no evidence*, 5, *moderate evidence*, and 10, *maximum evidence*. Specifically, observers made ratings on the following 11 descriptive prompts: The interactants were (a) attentive to each other, (b) showed mutual respect, (c) coordinated, (d) contributed to the interview goals, (e) expressive, (f) positive, (g) had overall good rapport; the interviewee was (h) hesitant, (i) serious, (j) disengaged, and (k) nervous.

Procedures

The procedures were the same as reported by Wilson et al. (2022). The survey was embedded online. After consenting, participants completed the demographics measure, the video judgment tasks, and postsession measures. The judgment task consisted of rating the nine video clips described above, which were presented in random order. After presentation of each clip, observers completed their ratings, which were also randomized for each video, and were provided an open-ended prompt to describe why they gave their ratings as an option. After rating all video clips, observers completed the self-report emotion ratings a second time and then completed the remainder of the measures, after which they were debriefed and excused.

Results

Cross-Cultural Similarities and Differences in Structure of Rapport Judgments

Descriptive statistics for each of the 11 ratings across the nine videos were computed for the entire sample and each of the observer culture/language groups (Table 1). The first goal was to examine whether the observer ratings reduced to the same dimensions as reported in Wilson et al. (2022). To do so, we followed the procedures described in that study by restructuring the data set as an Observer × Video Matrix (N = 1,032 × nine video clips = 9,288 cases). This structure allowed for analyses of the intercorrelations among the items within each video and was

Table 1. Descriptive Statistics for Means of the 11 Ratings Across Videos, Separately Each Observer Culture/Language Group and the Entire Sample.

		Observer culture/language groups				
Rating		English	Spanish	Arabic	French	Total
	N	213	214	483	122	1,032
Attentive	*M*	7.28	7.29	6.60	7.39	6.97
	SD	1.76	1.59	1.72	1.33	1.70
Coordination	*M*	6.34	5.09	5.87	6.23	5.85
	SD	2.13	2.34	1.54	1.76	1.93
Mutual respect	*M*	6.55	7.09	6.37	7.27	6.66
	SD	1.91	1.60	1.69	1.51	1.73
Hesitant	*M*	6.99	6.73	5.64	6.10	6.20
	SD	1.79	1.64	1.54	1.61	1.72
Contribute to goals	*M*	6.31	5.52	5.78	6.14	5.88
	SD	1.90	1.67	1.64	1.30	1.69
Positive	*M*	5.71	5.11	5.93	5.48	5.66
	SD	2.25	1.73	1.65	1.48	1.81
Expressive	*M*	6.67	5.79	6.09	6.01	6.14
	SD	1.85	1.80	1.67	1.31	1.72
Good rapport	*M*	5.99	4.41	5.89	6.15	5.64
	SD	2.09	1.69	1.60	1.50	1.83
Nervous	*M*	7.05	6.82	3.63	6.13	5.29
	SD	1.72	1.86	1.76	1.78	2.38
Seriousness	*M*	6.66	5.73	5.79	5.88	5.97
	SD	1.82	1.80	1.62	1.46	1.72
Disengaged	*M*	5.66	4.93	5.09	5.01	5.16
	SD	2.14	1.68	1.53	1.44	1.71

appropriate as statistical significance was not an issue. We then computed exploratory factor analyses (EFAs) with both Varimax and Oblimin rotations on the 11 ratings, once for the entire sample and then separately for each observer culture/language group. Separate EFAs were preferable to other analyses to establish structural validity and equivalence of a measure across cultures (Van de Vijver & Leung, 2011; Van de Vijver & Poortinga, 2002).

Both rotation methods produced the same results. Analyses for the entire sample and the English, Spanish, and Arabic groups produced the same two-factor structure as previously reported (Wilson et al., 2022). Inspection of the factor loadings after rotation indicated that Good Rapport, Contribute to Goals, Positive, Mutual Respect, Coordination, and Expressive all loaded on the first factor (Table 2); these items corresponded to Positivity. Likewise, Disengaged, Hesitant, and Nervous all loaded on the second factor; these items corresponded to the Negativity. Analyses for the French group also produced the same two factors as the other analyses, with the exception that two items—Expressive and Disengaged—did not load on either factor.

As in Wilson et al. (2022), we also computed the EFAs on the item means across the nine videos with both Varimax and Oblimin rotations. These analyses produced the same two-factor structure with the same items loading on each factor for the total group and for each of the observer culture/language groups separately.

We computed parallel analyses (Franklin et al., 1995; Hayton et al., 2004; Lim & Jahng, 2019; Patil et al., 2008; Wood et al., 2015) to compare our results from what would be expected using random correlation matrices (Patil et al., 2017). None of the parallel analyses results provided a

Table 2. Results of Exploratory Factor Analyses on the 11 Items Using Varimax and Direct Oblimin Rotations.

	Rotated matrices after Varimax rotation									
	Total group		English		Spanish		Arabic		French	
Item	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2
Positive	0.81	−0.11	0.79		0.81	−0.12	0.84	−0.11	0.80	
Contribute to goals	0.80		0.83		0.79	−0.10	0.81	−0.10	0.70	
Good rapport	0.79	−0.12	0.84		0.69	−0.11	0.83	−0.10	0.84	
Mutual respect	0.76		0.78	0.11	0.68		0.79	−0.10	0.81	
Coordination	0.75		0.73		0.56		0.82		0.70	
Attentive	0.72		0.70		0.61	−0.12	0.76	−0.10	0.68	
Seriousness	0.66		0.57	0.21	0.56		0.74	−0.11	0.47	0.38
Expressive	0.61		0.56		0.41		0.78		0.12	−0.11
Hesitant		0.67		0.82		0.84		0.33		0.88
Nervous		0.59		0.77		0.69		0.31		0.65
Disengaged	−0.20	0.38		0.54	−0.27	0.41	−0.24	0.72	−0.27	
Cumulative variance before rotation	58.88%		61.84%		53.00%		62.92%		54.25%	
Cumulative variance after rotation	49.21%		54.02%		44.09%		53.78%		46.45%	
	Pattern matrices after direct Oblimin rotation									
	Total group		English		Spanish		Arabic		French	
Item	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2	Factor 1	Factor 2
Positive	0.81		0.79		0.81		0.84		0.80	
Contribute to goals	0.80		0.84		0.79		0.81		0.70	
Good rapport	0.79		0.84		0.69		0.83		0.84	
Mutual respect	0.76		0.78		0.69		0.79		0.81	
Coordination	0.75		0.74		0.56		0.83		0.70	
Attentive	0.72		0.71		0.61		0.76		0.68	
Seriousness	0.67	0.12	0.56	0.16	0.57	0.13	0.74		0.47	0.38
Expressive	0.61		0.57		0.41		0.79		0.12	−0.11
Hesitant		0.68		0.83		0.85		0.34		0.88
Nervous		0.60		0.78		0.69		0.30		0.65
Disengaged	−0.18	0.37		0.54	−0.25	0.39	−0.17	0.70	−0.27	
Cumulative variance before rotation	58.88%		54.02%		53.00%		62.92%		54.25%	
Cumulative variance after rotation	49.21%		61.84%		44.09%		53.78%		46.45%	

Note. All factor loadings ≤ .10 are suppressed.

reasonable comparison as the eigenvalues for all 11 extracted factors in the EFAs above were greater than the eigenvalues produced by parallel analyses, which would not represent any data reduction.

Thus, for the purpose of the analyses below, we computed Positivity and Negativity scores in the same way for all groups (i.e., including Expressive loading on Positivity and Disengaged loading on Negativity; $.76 < \alpha s < .95$ for Positivity, $.18 < \alpha s < .83$ for Negativity[3]). For good measure, we also computed Positivity scores without Expressive and Negativity scores without Disengaged, but the same findings were obtained in all analyses presented below.[4]

Cultural Differences in Rapport Ratings as a Function of Interview Language and Interview Segment

To examine observer culture/language effects on rapport ratings, we computed Observer Culture/Language (4) × Interview Language (3) × Interview Segment (3) mixed analyses of variance (ANOVAs) on Positivity and Negativity. We assessed Observer culture/language similarities or differences in the pattern of rapport ratings across segments of the same interview in which the normal ebb and flow of rapport would vary. The analysis plan, therefore, involved identifying the highest order interactions involving Observer Culture/Language and Interview Segment, and then computing simple interaction contrasts across specific interview segments (i.e., Segment 1 vs. Segment 2 and 2 vs. 3). Below, we present results separately for each scale utilizing this analysis plan.

Positivity. On Positivity, the main effects of Interview Language, Interview Segment, and Observer Culture/Language were significant, $F(2, 1990) = 194{,}62$, $p < .001$, $\eta_p^2 = .16$; $F(2, 1990) = 223.44$, $p < .001$, $\eta_p^2 = .18$; and $F(3, 995) = 6.70$, $p < .001$, $\eta_p^2 = .02$, respectively. Importantly, the two-way interactions between Observer Culture/Language and Interview Language, Observer Culture/Language and Interview Segment, Interview Language and Interview Segment, and the three-way interaction were significant, $F(6, 1990) = 25.20$, $p < .001$, $\eta_p^2 = .07$; $F(6, 1990) = 21.07$, $p < .001$, $\eta_p^2 = .06$; $F(4, 3980) = 107.39$, $p < .001$, $\eta_p^2 = .10$; $F(12, 3980) = 11.52$, $p < .001$, $\eta_p^2 = .03$, respectively.

We decomposed the significant three-way interaction by computing the simple interactions between Observer Culture/Language and Interview Segment separately for each interview language. For English interviews, this interaction was significant, $F(6, 2000) = 3.50$, $p = .002$, $\eta_p^2 = .01$. Inspection of data indicated a similar pattern of findings among the observer culture/language groups, with all groups tending to rate the second segment higher than the first and the third lower than the second. Thus, the interaction reflected differences in degree not direction (Figure 1A).[5]

For the Spanish interviews, the interaction between Observer Culture/Language and Segment was significant, $F(6, 2008) = 25.18$, $p < .001$, $\eta_p^2 = .07$. Inspection of data indicated a similar pattern of findings between the English and Arabic groups, with both rating the second segment lower than the first and the third lower than the second. The French also rated the third segment lower than the second. There were no differences across segments for the Spanish group or for French ratings of the first and second segment (although means trended in the same direction as the English and Arabic groups). Thus, the interaction may have reflected subtle differences in degree, especially between Segments 2 and 3 (Figure 1C).

For the French interviews, the same interaction was significant, $F(6, 2008) = 18.06$, $p < .001$, $\eta_p^2 = .05$, and inspection of the data indicated a difference in the direction of the ratings. The English, Arabic, and Spanish groups were similar in that they all rated the second segment lower than the first and had no differences between the second and third segments. The French,

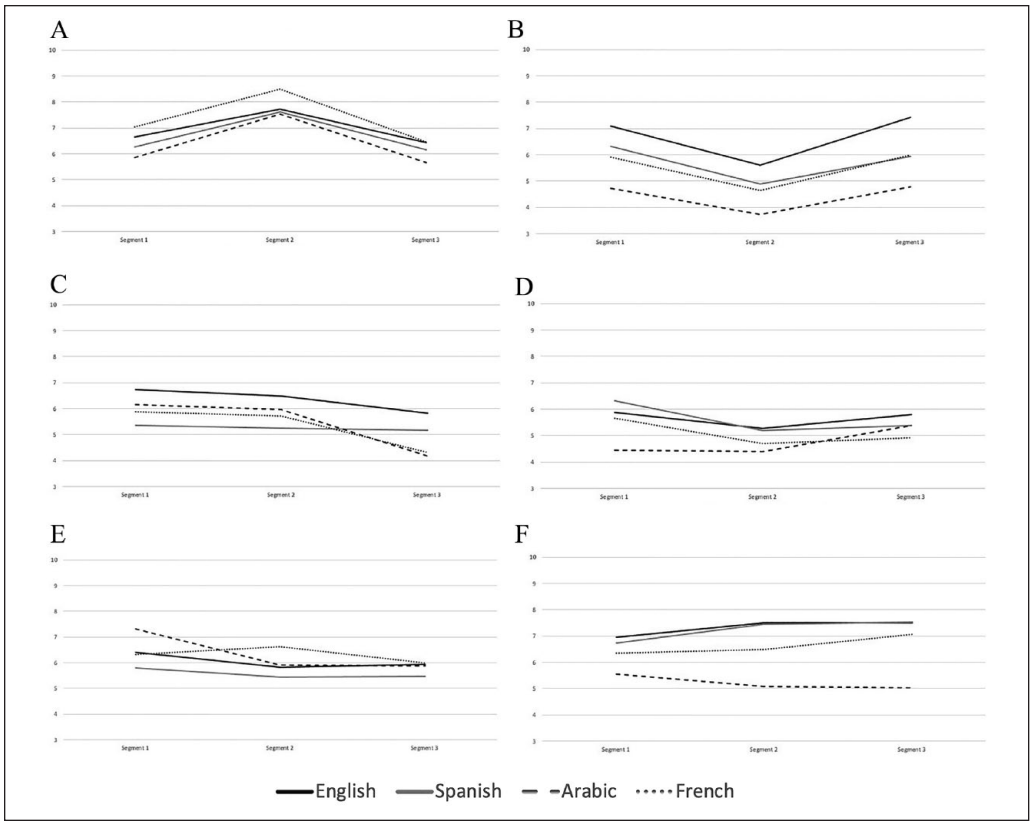

Figure 1. Positivity and Negativity Ratings on English, Spanish, and French Language Interviews by Observer Culture/Language

however, rated the second segment higher than the first and the third segment lower than the second. Thus, the interaction reflected a difference in direction, especially between Segments 1 and 2 (Figure 1E).

Negativity. On Negativity, the main effects of Interview Language, Interview Segment, and Observer Culture/Language were significant, $F(2, 1990) = 234.59$, $p < .001$, $\eta_p^2 = .19$; $F(2, 1990) = 113.80$, $p < .001$, $\eta_p^2 = .11$; and $F(3, 995) = 104.00$, $p < .001$, $\eta_p^2 = .24$, respectively. Importantly, the two-way interactions between Observer Culture/Language and Interview Language, Interview Segment and Observer Culture/Language, Interview Language and Interview Segment, and the three-way interaction were significant, $F(6, 1990) = 24.92$, $p < .001$, $\eta_p^2 = .07$; $F(2, 1990) = 2.36$, $p = .028$, $\eta_p^2 = .01$; $F(4, 3980) = 53.51$, $p < .001$, $\eta_p^2 = .05$; and $F(12, 3980) = 18.96$, $p < .001$, $\eta_p^2 = .05$, respectively.

We decomposed the three-way interaction using the same analyses as for Positivity. For English interviews, this interaction was significant, $F(6, 2000) = 3.82$, $p < .001$, $\eta_p^2 = .01$, and as with the Positivity ratings, all observer groups produced the same findings, with the second segment rated lower than the first and the third rated higher than the second. Thus, the interaction reflected differences in degree not direction (refer to Figure 1B).

For the Spanish interviews, the interaction between Observer Culture/Language and Segment was significant, $F(6, 2008) = 21.38$, $p < .001$, $\eta_p^2 = .06$. The English, Spanish, and French all rated the second segment lower than the first, but there was no difference for the Arabic group

(although means trended in the same direction). Also, English and Arabic groups rated the third segment higher than the second, but there were no significant differences for the Spanish or French groups (but means trended in the same direction). Thus, as with the Positivity ratings, the interaction may have reflected subtle differences in degree (Figure 1D).

For the French interviews, the interaction was significant, $F(6, 2008) = 16.86$, $p < .001$, $\eta_p^2 = .05$. The English and Spanish groups both rated the second segment higher than the first and had no differences between the second and third segments. The Arabic group rated the second segment lower than the first with no difference between the second and third. The French did not differ between the first and second segments (although means trended similarly to the English and Spanish groups) and rated the third segment higher than the second. Thus, the interaction reflected a difference in direction (Figure 1F).

Post Hoc Analyses

The findings above demonstrated considerable observer culture/language similarities in rapport ratings across interview languages and segments but also some potentially interesting cultural differences. Close inspection suggested that the differences centered on two interview language-segment comparisons. The first was in the Spanish interviews, which produced observer culture/language differences on the differences between the second and third segments; Spanish (and to a lesser degree French) observers were different than English and Arabic observers on both Positivity and Negativity ratings. The second concerned the French interviews, which produced observer culture/language differences on the differences between the first and second segments, with the French observers rating differently than the other three groups.

To decompose the observer culture/language differences on these two interview language-segment combinations, we computed two-way Observer Culture/Language by Segment ANOVAs on each of the 11 original items. To limit Type I error, we then identified items that produced a significant interaction with a $\eta_p^2 \geq .044$ and that was associated with a difference in direction not degree (as defined by a difference in direction of the means between the two segments across the four observer culture/language groups, regardless of statistical significance).[6] For the comparison between the second versus third segments of the Spanish interview, the only item to meet this criterion was Expressive, but the differences occurred because the Arabic group rated the third segment lower than the second, while the English, Spanish, and French groups rated the third segment higher (Figure 2A). This difference did not correspond to that noted in the main analysis and thus was not diagnostic of a possible source of that difference.

For the comparison between the first and second segments of the French interview, two items met the criteria: Mutual Respect and Seriousness. For Mutual Respect, the English, Arabic, and Spanish groups all rated the second segment lower than the first, while the French rated the second higher (Figure 2B). For Seriousness, the English and Arabic groups rated the second lower while the French (and Spanish) rated it higher (Figure 2C). These findings suggested that the constructs of mutual respect and seriousness may have different cultural meanings in French culture and language vis-à-vis judgments of rapport compared with the other culture/language groups.

To examine whether the observer culture/language differences observed on Mutual Respect and Seriousness ratings of the French Video Segments 1 versus 2 above occurred on the other segment comparison, we computed the same two-way Observer Culture/Language by Segment ANOVAs on the 11 original items on the French language interview comparing Segments 2 versus 3. Interestingly, the interaction was not significant on Seriousness, $F(3, 1008) = 2.56$, $p = .054$, $\eta_p^2 = .008$. On Mutual Respect, the two-way interaction was significant, $F(3, 1007) = 3.28$, $p = .020$, $\eta_p^2 = .010$, but did not meet the criteria established above. The other nine items also did not produce a finding that matched criteria. Thus, the observer culture/language differences for French Segments 1 versus 2 appeared isolated to the difference between those two segments of the interview.

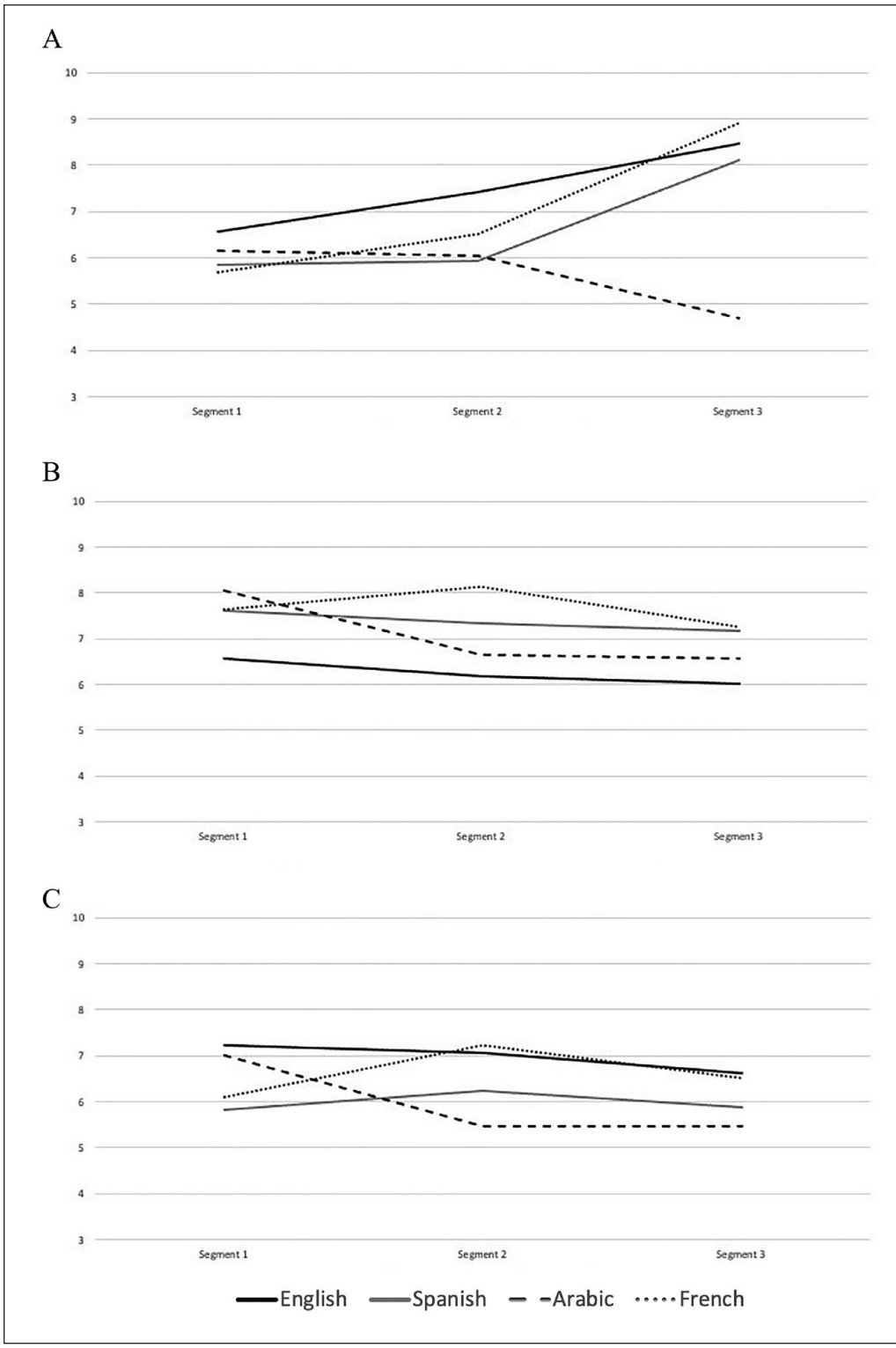

Figure 2. Expressive Ratings on the Spanish Language Interview (4a) Mutual Respect (4b), and Seriousness (4c) Ratings on the French Language Interview by Observer Culture/Language

Discussion

The findings extended the field's understanding of the nature and function of rapport across cultures in several ways. First, for the most part, data reduction analyses demonstrated that the structure of rapport judgments reduced to a bidimensional model of positivity and negativity across the cultures studied. Second, there were considerable cultural similarities in rapport judgments across the ebb and flow of the interviews (i.e., across interview segments). Third, there were some possible cultural differences in rapport judgments and the constructs contributing to those judgments, notably French observers' judgments of mutual respect and seriousness.

Rapport judgments reducing to a bidimensional model of positivity and negativity replicated previous findings (Wilson et al., 2022) and suggested that, despite earlier seminal contributions to the field's conceptual understanding of various components of rapport (Abbe & Brandon, 2013; Bernieri et al., 1994; Bordin, 1979; Kleinman, 2006; Tickle-Degnen & Rosenthal, 1987a), rapport judgments may be different in the minds of laypersons. That is, rapport judgments may reflect a simpler, bidimensional model of the degree of positivity and negativity observed in interactions across cultures. This notion is somewhat in line with much of Bernieri's seminal research in which rapport was assessed as self-reported positivity (Bernieri, 1988; Bernieri et al., 1994, 1988; Bernieri & Gillis, 1995), and with Tickle-Degnen and Rosenthal's (1987a, 1990) work that posited that positivity was an important component of rapport. Our findings extend those previous conceptualizations in that they suggest that negativity is also a separate and somewhat independent aspect of the concept of rapport judgments across cultures (i.e., rapport can be perceived simultaneously as high or low in both positivity and negativity). A simpler structure of lay rapport judgments contributes to understanding why different sources of rapport ratings (interviewers, interviewees, and third parties) are not necessarily associated with each other or predict the verbal content of interactions (Matsumoto & Hwang, 2021).

The findings also suggest an alternative theoretical understanding of the nature of rapport vis-à-vis previous theoretical and empirical work on different rapport components, such as coordination and synchrony (Bernieri et al., 1994), mutual attention (Tickle-Degnen & Rosenthal, 1987a), or working alliance and operational accord (Abbe & Brandon, 2013; Bordin, 1979; Kleinman, 2006). These constructs may comprise what may be considered objective or active, behavior-based rapport. A distinction between rapport judgments, as documented here, and rapport-related behaviors (e.g., coordination, synchrony, and attention) would be consistent with Grahe and Bernieri's (2002) distinction between subjective and objective aspects of rapport. This may be an important conceptual distinction to make.

The observed cultural similarities in rapport judgments are equally interesting to consider. These findings were notable here given the crossing of observer and interview languages and the inclusion of an observer culture/language that was different from the rest, and they extend previously documented cultural similarities (Wilson et al., 2022) in which all interviews judged were conducted in English. Given the importance of rapport both within and across cultures (Spencer-Oatey, 2005), cultural similarities in rapport judgments of potentially confrontational interactions in different languages and cultures may speak to an underlying cross-cultural basis for understanding the qualities or characteristics of interactions that lead to cooperation. Across cultures, social coordination is essential to increase group efficiency and reduce social chaos, as these are the central functions of culture (Matsumoto & Juang, 2023); a cross-cultural understanding of rapport may facilitate such functions. Commonly shared needs for affiliation (Boyer, 2000; Buss, 2001) and the positive impact of social relations on health, well-being, and social survival (Spencer-Oatey, 2005) may facilitate cross-cultural bases for meaningful social relations that may transcend culture and lend themselves to culturally similar judgments of rapport, at least in some contexts. Getting along and friendliness (mentioned by Bernieri et al., 1988 as important to judgments of rapport) are important in many cultures; our findings suggest that judgments of whether people get along may be similar across cultures.

Also interesting to note concerning cultural similarities were the effect sizes produced in the various analyses. For example, the overall analyses on Positivity produced effect sizes of $\eta_p^2 = .16$, $\eta_p^2 = .18$, and $\eta_p^2 = .10$ on the main effects of Interview Language, Interview Segment, and the interaction between the two. The three-way interactions involving Observer Culture/Language and their decomposed effects produced much smaller effect sizes. Similar effect size differences occurred on Negativity. Thus, while observer culture/languages did interact with interview language and segment, their effects were much smaller compared with the large effects existent in overall judgments of the interviews themselves.

Our data did demonstrate a potentially interesting cultural difference in rapport judgments, notably in French observers' ratings of mutual respect and seriousness on the differences between two segments of the French language interview. There are several possible interpretations of these findings, all of which are tempered by the fact that post hoc analyses did not find the same differences between French language interview Segments 2 versus 3, but nevertheless need to be addressed in the future. The differences may have occurred because the French observers interpreted some behavior or verbal exchange in the first two video segments differently on mutual respect and seriousness than did other culture/language observers (but these behavioral or verbal differences would have had to occur only in those two segments and not others). Or the findings may have occurred because there were conceptual differences in French culture on the semantic meanings or nomological networks of the concepts of mutual respect and seriousness (but these would have had to have been activated only in those two segments of the French interview and not others). Or the findings may have been limited to this comparison with this sample for these videos and were not generalizable to other videos or samples. Future studies will need to disentangle these possibilities.

The balanced design employed (different culture/language observers judging stimuli of interactions in all observer languages) allowed for a consideration of possible in-group biases in the judgments. The findings as a whole, however, did not provide evidence for such biases, as there were no observer culture/language differences on the English interviews; the differences that occurred in the Spanish language interviews (Arabic ratings of expressivity) could not be explained through an ingroup effect; and the differences observed on the French interviews occurred only in the comparison of the first and second segments but not the second and third. Ingroup biases, defined as the tendency for observers to judge stimuli from one's own culture differently than those from a different culture relative to other observer cultures, would have predicted broader effects, which were not evidenced here. Regardless, they should be examined again in future efforts.

The findings were not obtained without limitations, the first having to do with the video stimuli. We utilized only one video per interview language and videos contained different contents about different cases, were different lengths, and with different interview styles. Also, the videos were not associated with any rapport data obtained from the interactants themselves nor were they previously analyzed for specific words or behavior that occurred. To be sure, using real interviews was beneficial for ensuring ecological validity of the stimuli, and the main analyses were within-interview comparisons within each observer culture/language, which mitigated differences across videos. Still, more and various interview settings and lengths of interview times should be examined in future studies, including interviews from more non-North American and European contexts. Future research should also consider obtaining additional meta-data concerning the interviews, including rapport indices generated from the actual interactants or verbal and behavioral exchanges.

Another limitation concerned the observer culture/language samples. Of the four groups included, cultural distances among three (U.S. Americans, French, and Spanish) were relatively smaller than the fourth (Arabic). Future research should endeavor to engage more disparate cultural groups around the globe as both observers as well as in the stimuli to ensure a more diverse

fully balanced design. Finally, the findings may have been artifacts of the 11 rating items used; a different or larger set of ratings may produce different results. These, and other issues described earlier, need to be followed in future studies.

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Notes

1. Wilson et al. (2022) utilized videos that had been previously coded for rapport by trained third parties and where the interactants also rated rapport. In this study, no such data were available; thus, observer culture/language differences were assessed by differences in the pattern of rapport coding across segments of the same interview, in which the normal ebb and flow of rapport would vary (i.e., in interactions between Observer Culture/Language and Interview Segments).
2. This procedure for time segmentation was not precise because each interrogation is different and the videos initially and finally selected for this study were no different. Each video had different lengths, proceeded at different paces through different phases (background information, rapport building, etc.), and differed in the number and duration of breaks taken. Breaking videos into clips according to specific interview phases would have required agreement on phase types and occurrence and still would have resulted in different times selected within each video. Thus, we opted to select times that roughly approximated the three major interview phases described in text. Although this procedure resulted in differences across videos, which were inevitable given the real-life nature of the videos, we determined that this was an acceptable tradeoff because the main analyses examined Observer Culture/Language differences within each video.
3. Lower alphas for Negativity likely due to reduced number of items, and findings should be interpreted with this caveat.
4. To examine possible sex differences in these findings, we recomputed all exploratory factor analyses (EFAs) using the transposed data set separately for men and women. The same findings as those reported for the entire sample were obtained.
5. We computed repeated contrasts comparing the first and second and the second and third segments separately for each Observer Culture/Language group for all interview languages (report of findings available upon request).
6. Several meta-analyses of effect sizes in the social psychological literature have generated different results for the average effect size. Richard et al.'s (2003) analysis produced an average $r = .21$; Schäfer and Schwarz's (2019) analysis produced a median $r = .36$; and Lovakov and Agadullina's (2021) analysis produced $r = .24$ at the median percentile. For the analyses described here, we adopted a criterion effect size of $r = .21$, which approximated a $\eta_p^2 = .044$.

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