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The Effect of Perceived Emotional Similarity within Teams on Organizational Outcomes and Shared Reality

Introduction

Employees working in teams have become the prevalent makeup of most organizations. Teams can benefit from the diversity of their members, promoting the generation of ideas that is valuable for problem-solving in a complex work environment. Much of organizational research has focused on how to increase collaboration and decrease conflict within teams. Part of the research into organizational teamwork has identified that emotions can be transferred among co-workers, affecting organizational outcomes (e.g. job satisfaction and worker productivity) (Barsade, 2002; Bakker & Leiter, 2010). However, there has been little focus on how emotional similarity between team members could also affect organizational outcomes.

The literature on emotional similarity is vast, identifying emotional synchrony as a means to support social connections and facilitate cohesion (e.g. Páez et al., 2015). These identified outcomes intersect with the benefits associated with teamwork established in organizational research, such as increasing collaboration. Therefore, it is of interest to examine perceived emotional similarity within the workplace.

Moreover, emotional similarity as a means to promote social connectedness is related to the "relational motive" (Rossignac-Milon & Higgins, 2018) behind shared reality. Shared reality is defined as individuals perceiving an alignment between their beliefs, feelings, and thoughts about the world with another person (Higgins, 2019). Individuals are motivated to share their internal thoughts and feelings about the world with those around them, such that increased

similarity between their perspectives would lead to greater social connectedness (Higgins et al., 2021). As such, I will also be investigating whether increased perceived emotional similarity will lead to greater shared reality.

The following analyses will examine the effect of perceived emotional similarity through the lens of organizational research, extending research on how perceived emotional convergence between team members can affect satisfaction, productivity, and shared reality.

Hypotheses

I seek to examine whether increased perceived emotional similarity will have a positive impact on organizational outcomes (e.g. worker productivity and job satisfaction) and predict shared reality. I hypothesize that during moments when employees feel more emotionally similar to their teammates than usual, they will be more satisfied and feel more productive about their work that day (subjective measure). In addition, they will exhibit better work performance as rated by their teammates (objective measure). I also predict that during moments when individuals feel more emotionally similar to their teammates they will report greater shared reality.

Specifically, my independent variable is perceived emotional similarity and my dependent variables are shared reality, job satisfaction, subjective and objective worker productivity.

Data Description

I will be analyzing survey data collected from a Chinese organization where employees work in teams of 5 to 7. This data was originally collected by a group of researchers seeking to answer different questions relating to organizational behavior. The study was survey-based and over 800 employees participated in this study. Participants filled in a baseline survey, 3 surveys daily (morning, afternoon, and evening) over a month, and an endline survey at the end of the study period. For the purposes of my analyses, I will only be looking at the experience sampling surveys (daily surveys). The daily surveys asked a variety of questions about the respondent and their perception of their team members, relating to present feelings, behaviors, time spent on work, satisfaction, productivity, and stress.

While this dataset only focuses on one organization, which may not be representative of workers in all organizations, it offers an ecologically valid way of gaining insight into my research question. This is the case because employees responded to surveys throughout the workday, taking note of how they were feeling, the behaviors they engaged in, and their interactions with their co-workers, as opposed to responding to surveys after the fact. Moreover, experience sampling allows me to establish a baseline emotional level for each participant, providing a means to compare change in emotion from a set level. This mitigates the limitations of a single daily survey, where change in emotion could be a function of day-to-day changes (e.g. waking up in a bad mood) and does not capture fluctuations throughout the workday. Moreover, the surveys also provide an objective measure of productivity. Each respondent rated their own productivity as well as the productivity of all other team members, allowing for a score of objective worker productivity to be obtained from teammates' ratings.

Independent Variable

Perceived Emotional Similarity

Perceived emotional similarity is the independent variable. This is operationalized by items that ask the participant to rate their present feelings from a scale of 1 (Not at All) to 7 (Extremely), as well as their perception of their team member's feelings on the same items and the same scale. The absolute difference between their own and their perception of teammates' feelings for each emotion item will be taken and then averaged to generate a score for perceived emotional difference. Such that a lower perceived emotional difference score would indicate more perceived emotional similarity.

s.em1 - How stressed do you feel right now? —> **a.stress**

s.em2 - How happy do you feel right now? —> **a.happy**

s.em4 - How irritable do you feel right now? —> **a.irrit**

o.em1 - How stressed did this colleague seem? —> **a.p.stress**

o.em2 - How happy did this colleague seem? —> **a.p.happy**

o.em3 - How irritable did this colleague seem? —> **a.p.irrit**

All the items rated by the self (s.) were recoded to instead indicate an actor (a.) and given a name that corresponded to the emotion indexed by the item. Similarly, all the items which the other team members rated for the participant (o.) were transformed and recoded to clearly indicate that these scores were actor rated partner scores (a.p.). These recodes were necessary to not confuse scores originally coded in the dataset that indicated partner rated actor scores. In other words, scores that were not given by the participant to another co-worker but were given by other team members to the participant.

Dependent Variables

The dependent variables are job satisfaction, subjective and objective worker productivity, as well as shared reality.

Job Satisfaction

Job satisfaction is operationalized by taking the mean of ratings in response to 2 items, rated on a scale of 1 (Not at All) to 7 (Extremely).

s.jp2 - Today, how satisfied were you with the amount of work that you produced? —>**a.jp2**

s.jp3 - Today, how satisfied were you with the quality of work that you produced? —> **a.jp3**

Worker Productivity (subjective)

Worker productivity as a variable of interest is both a subjective and objective measure. The subjective measure is operationalized by one question, rated on a scale of 1 (Not at All) to 7 (Extremely).

s.jp1 - How well do you think you performed at work today? —> **a.jp1**

Worker Productivity (objective)

The objective measure of worker productivity is operationalized by team members' responses to one question, rated on a scale of 1 (Not at All) to 7 (Extremely).

o.jp1 - How well do you think this colleague performed at work today? —> **p.jp1**

This variable has been recoded from other team members' score (o.) to partner's score (p.).

Shared Reality

Shared reality is operationalized by taking an average of ratings in response to 3 items, rated on a scale of 1 (Strongly Disagree) to 7 (Strongly Agree).

o.sr1 - This colleague and I shared the same thoughts and feelings about things.—>**a.p.sr1**

o.sr2 - This colleague and I thought of things at the exact same time —> **a.p.sr2**

o.sr3 - This colleague and I developed a joint perspective. —> **a.p.sr3**

These items were initially coded as scores given by other team members (o.) now transformed and recoded as actor rated partner scores (a.p.).

Descriptive Statistics

Here, I will be presenting 2 sets of descriptive statistics. The first set will be the raw data (unscaled), followed by the second set where the items have been transformed into the variables of interest (perceived emotional similarity, shared reality, job satisfaction, subjective and objective productivity), z-scored, and within-person standardized.

Table 1 (below) shows all the raw data for survey items related to emotion, shared reality, job satisfaction, and worker productivity. Each row shows an item the actor responded to and the corresponding partner number if applicable. Items with a corresponding partner number indicate that individuals were responding to a question that asked about their perception of their co-workers that day. Partners are numbered 1 to 7 because each team in the organization is made up of 5 to 7 team members. The dataset is organized such that each individual received a participant id (actor.id) and each corresponding team member received an additional id (partner.id). Accordingly, the partner number displayed in table 1 corresponds to the organization of the dataset. For example, partner 1 would correspond to the partner number assigned to a given member of a team within a given team in the organization. Note that the partner number is not dependent on the actor id, therefore, partner numbers can be thought of as an additional way to categorize participants according to the team they belong to.

Table 1: Descriptives of Raw Data

	Descriptives					
	Mean	**Median**	**Std. Dev.**	**Min**	**Max**	**Valid N**
Stress (partner 1)	3.1	3	1.7	1	7	25009
Stress (partner 2)	3.0	3	1.7	1	7	25347
Stress (partner 3)	3.1	3	1.7	1	7	24571
Stress (partner 4)	3.0	3	1.7	1	7	24822
Stress (partner 5)	2.9	3	1.7	1	7	21774
Stress (partner 6)	3.0	3	1.8	1	7	12587
Stress (partner 7)	3.0	3	1.7	1	7	5068
Happy (partner 1)	4.9	5	1.8	1	7	25009
Happy (partner 2)	5.0	5	1.7	1	7	25347
Happy (partner 3)	4.9	5	1.7	1	7	24571
Happy (partner 4)	5.0	5	1.7	1	7	24822
Happy (partner 5)	5.0	5	1.7	1	7	21774
Happy (partner 6)	4.9	5	1.8	1	7	12587
Happy (partner 7)	4.9	5	1.7	1	7	5068
Irritable (partner 1)	3.1	3	1.7	1	7	25009
Irritable (partner 2)	3.0	3	1.7	1	7	25347
Irritable (partner 3)	3.0	3	1.7	1	7	24571
Irritable (partner 4)	3.0	3	1.7	1	7	24822
Irritable (partner 5)	2.9	3	1.7	1	7	21774
Irritable (partner 6)	3.0	3	1.8	1	7	12587
Irritable (partner 7)	3.0	3	1.6	1	7	5068
Stress (actor)	2.9	3	1.7	1	7	49730
Happy (actor)	5.1	5	1.7	1	7	49730
Irritable (actor)	2.9	3	1.7	1	7	49730
Shared Reality 1 (partner 1)	4.9	5	1.6	1	7	25020
Shared Reality 1 (partner 2)	4.8	5	1.6	1	7	24856
Shared Reality 1 (partner 3)	4.8	5	1.6	1	7	24899
Shared Reality 1 (partner 4)	4.9	5	1.5	1	7	25133
Shared Reality 1 (partner 5)	4.9	5	1.6	1	7	21445
Shared Reality 1 (partner 6)	4.9	5	1.6	1	7	12579
Shared Reality 1 (partner 7)	5.0	5	1.5	1	7	5068
Shared Reality 2 (partner 1)	4.9	5	1.6	1	7	25020
Shared Reality 2 (partner 2)	4.8	5	1.6	1	7	24856
Shared Reality 2 (partner 3)	4.8	5	1.6	1	7	24899
Shared Reality 2 (partner 4)	4.9	5	1.6	1	7	25133
Shared Reality 2 (partner 5)	4.9	5	1.6	1	7	21445
Shared Reality 2 (partner 6)	4.9	5	1.6	1	7	12579
Shared Reality 2 (partner 7)	5.0	5	1.6	1	7	5068
Shared Reality 3 (partner 1)	4.8	5	1.6	1	7	25020
Shared Reality 3 (partner 2)	4.8	5	1.6	1	7	24856
Shared Reality 3 (partner 3)	4.8	5	1.6	1	7	24899
Shared Reality 3 (partner 4)	4.8	5	1.5	1	7	25133
Shared Reality 3 (partner 5)	4.8	5	1.6	1	7	21445
Shared Reality 3 (partner 6)	4.9	5	1.5	1	7	12579
Shared Reality 3 (partner 7)	4.9	5	1.6	1	7	5068

	Descriptives					
	Mean	**Median**	**Std. Dev.**	**Min**	**Max**	**Valid N**
Productivity (subjective)	5.0	5	1.6	1	7	16578
Satisfaction 1 (subjective)	4.8	5	1.6	1	7	16578
Satisfaction 2 (subjective)	4.8	5	1.6	1	7	16578
Productivity (objective - partner 1)	5.0	5	1.6	1	7	13238
Productivity (objective - partner 2)	4.8	5	1.6	1	7	13420
Productivity (objective - partner 3)	4.9	5	1.6	1	7	13480
Productivity (objective - partner 4)	4.9	5	1.7	1	7	13480
Productivity (objective - partner 5)	5.0	5	1.6	1	7	11800
Productivity (objective - partner 6)	5.0	5	1.7	1	7	6759
Productivity (objective - partner 7)	4.9	5	1.6	1	7	2620

Table 2: Descriptives for Scaled Variables of Interest

	Descriptives					
	Mean	**Median**	**Std. Dev.**	**Min**	**Max**	**Valid N**
Perceived Emotional Similarity	1	0.8	0.7	0.0	10.9	138547
Shared Reality	0	0.1	0.9	-6.2	5.8	138911
Satisfaction	0	0.0	0.9	-4.2	4.2	116046
Productivity (subjective)	0	0.1	1.0	-4.2	4.2	113806
Productivity (objective)	0	0.1	1.0	-4.2	4.2	73213

Table 2 (above) displays the descriptive statistics for the 5 variables of interest. All the variables have been within-person standardized and z-score transformed so that the mean is centered around 0 and the standard deviation is ~1. Perceived emotional similarity, however, deviates from this trend because absolute difference scores were taken after scaling the items. As such, this variable has a mean centered around 1 and a standard deviation of 0.7 instead. Looking at the histograms below we can see that all the variables are normally distributed, except for perceived emotional similarity (figure 5) which is skewed to the right. The skew is a result of taking absolute scores which turns all negative scores into positive scores, effectively folding the distribution on itself. The histograms provide a visual presentation of the variables of interest and an explanation for why perceived emotional variability deviates from the other variables.

Figures 1-5: Histograms of Variables of Interest

Figure 1

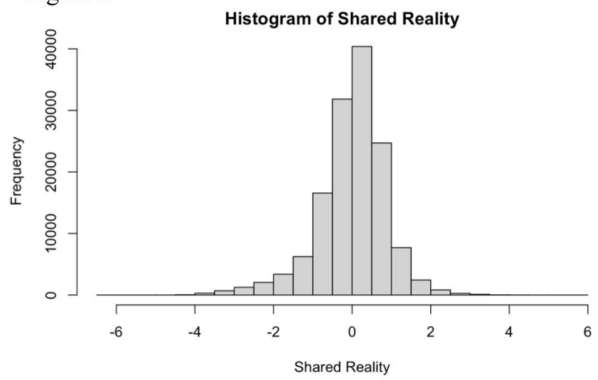


Figure 2

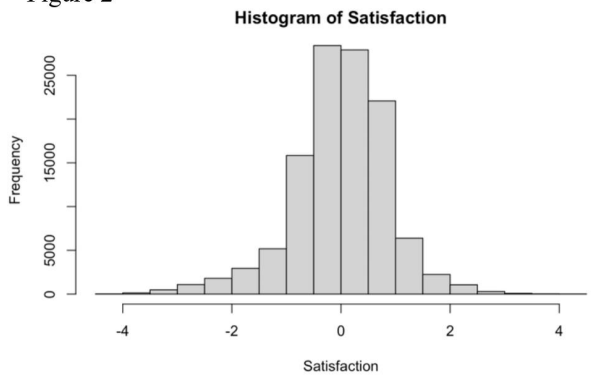


Figure 3

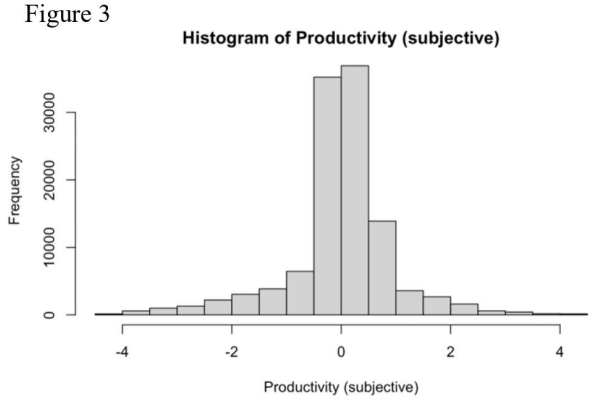


Figure 4

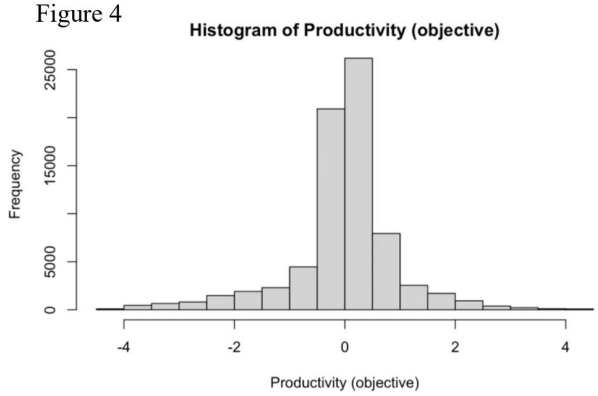
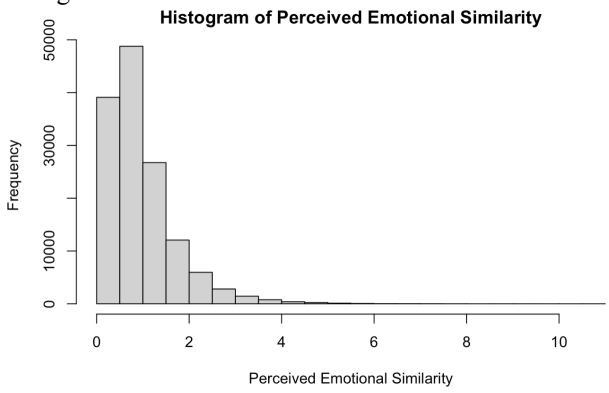


Figure 5



Exploratory Modelling

I first ran exploratory multiple linear regressions to look at the relationships of interest. The first model looks at shared reality (Y) as the outcome, with perceived emotional similarity (X_1) and day (X_2) as predictors. Day is a scaled variable included in the model to account for

day-to-day fluctuations in emotions. All the subsequent models include the same 2 predictors (perceived emotional similarity and day). Model 2 predicts job satisfaction, model 3 predicts subjectively rated productivity, and model 4 predicts objectively rated productivity. Table 3 below shows the results of the 4 multiple regression models.

Table 3: Results of 4 Multiple Linear Regressions

Results

	Dependent variable:			
	Shared Reality	Job Satisfaction	Productivity (subjective)	Productivity (objective)
	(1)	(2)	(3)	(4)
Percieved Emotional Similarity	-0.17***	-0.16***	-0.18***	-0.17***
	(0.003)	(0.005)	(0.01)	(0.01)
Day	-0.04***	-0.04***	-0.04***	-0.04***
	(0.002)	(0.003)	(0.004)	(0.004)
Constant	0.16***	0.16***	0.17***	0.16***
	(0.004)	(0.01)	(0.01)	(0.01)
Observations	137,202	70,010	68,727	68,320
R^2	0.02	0.02	0.02	0.02
Adjusted R^2	0.02	0.02	0.02	0.02
Residual Std. Error	0.86 (df = 137199)	0.87 (df = 70007)	0.96 (df = 68724)	0.97 (df = 68317)
F Statistic	1,540.32*** (df = 2; 137199)	697.18*** (df = 2; 70007)	667.94*** (df = 2; 68724)	560.36*** (df = 2; 68317)

Note: *p<0.1; **p<0.05; ***p<0.01

For ease of reporting the results, I will be referring to the variable perceived emotional similarity as perceived emotional difference because the variable has been reverse coded, such that a lower score indicates greater perceived emotional similarity. As such, the term perceived emotional difference is better able to capture the way the variable is coded and prevents confusion when I refer to the construct of perceived emotional similarity when interpreting the results.

Results

For the purposes of this report, I will only be reporting on the predictor of interest (perceived emotional difference). Results from model 1 show that there is a significant effect of perceived emotional difference and day on shared reality ($F(2, 137199) = 1540$, $p<.001$, $R^2 = .02$). The relationship between perceived emotional difference and shared reality while controlling for day is significant ($t = -53.56$, $p<.001$). More technically, for every point increase in perceived emotional difference, there is a 0.17 point on average decrease in shared reality while holding all else constant. Therefore, the results can be interpreted as increased perceived emotional similarity between team members is associated with greater shared reality.

Model 2 also shows a significant effect of perceived emotional difference and day on job satisfaction ($F(2, 70007) = 697.2$, $p<.001$, $R^2 = .02$). There is a significant relationship between perceived emotional difference and job satisfaction while controlling for day ($t = -35.19$, $p<.001$). Specifically, for every point increase in perceived emotional difference, there is a 0.16 point on average decrease in job satisfaction while holding all else constant. This can be interpreted as increased perceived emotional similarity between teammates is associated with an increase in job satisfaction.

Model 3 presents similar results, the overall model shows a significant relationship between perceived emotional difference and day on subjective productivity ($F(2, 68724) = 667.9$, $p<.001$, $R^2 = .02$). There is a significant relationship between perceived emotional difference and subjective productivity while controlling for day ($t = -34.99$, $p<.001$). For every point increase in perceived emotional difference, there is a 0.18 point on average decrease in subjective productivity while holding all else constant. This can be interpreted as increased perceived emotional similarity between team members is associated with a rise in self-reported productivity.

Finally, model 4 shows a significant relationship between perceived emotional difference and day on objective productivity ($F(2, 68317) = 560.4$, $p<.001$, $R^2 = .02$). There is a significant relationship between perceived emotional difference and objective productivity while controlling for day ($t = -32.31$, $p<.001$). Specifically, for every point increase in perceived emotional difference, there is a 0.17 point decrease in partner rated productivity of the actor while holding all else constant. This result corroborates the results for self-rated productivity, where increased perceived emotional similarity is associated with a rise in objectively rated productivity.

Limitations

These 4 models provide a starting point to examine my hypotheses. The results are consistent with my predictions that increasing perceived emotional similarity would positively impact organizational outcomes and predict shared reality. However, the multiple regression does not consider variability within teams and between teams. The very low adjusted R^2 for all the models brings attention to this issue, where the predictor variables only accounted for 2% of the variance in the data. These regression models may not be able to explain much of the variance within the data because they do not account for greater similarity of individuals belonging to the same team compared to individuals from different teams. Furthermore, the multiple regression also considers each actor rated partner response to be independent observations (they are separated by rows in the dataset), even though actors repeatedly rated the same partners on different items on the same day. In a similar vein, the data at hand violates the underlying assumption of independence because observations for the same individual will be more similar than between individuals. For these reasons, a multiple regression is not the best model to examine the kind of data at hand. As such, it is ideal to utilize a model that can account for the nested nature of the data.

Final Analytic Approach

I ran a multilevel model to account for greater perceived emotional similarity of individuals within teams compared to between teams. Team membership and partner are included as random effects in the model, while the independent variable (perceived emotional similarity) and the control variable (day) are added as fixed effects. The control variable day was standardized to obtain a standardized effect size in the output. Team membership is a random effect because every individual within this dataset is nested within their respective 5 to 7 member teams, therefore, it would be optimal to control for the variation due to team membership. Partner is also included as a random effect to account for actor rated partner responses as repeated observations in the dataset. More specifically, the model includes a random intercept for each employee nested within a team (team membership) and for each item where individuals gave a response based on their perception of other team members (partner). Below is an equation for the multilevel model predicting the outcome of shared reality (Gelman & Hill, 2007).

$$SR_i = \alpha_{ij} + \alpha_{ik} + \beta_0 + \beta_1 emotion_{i1} + \beta_2 day_{i2} + u_{0t} + \epsilon_{ij}$$
$$\alpha_j \sim N(\mu_\alpha, \sigma^2_\alpha)$$

Such that *ijk* corresponds to respondent *i* rating partner *j* in team *k*. SR_i is shared reality score as rated by respondent *i*, where $emotion_{i1}$ is the i^{th} respondent in the vector $emotion_{(1)}$ representing perceived emotional similarity score and day_{i2} is the i^{th} respondent in the vector $day_{(2)}$ representing the specific day on which respondent *i* took the survey.

The same equation written in R code:

```
lmer(sharedreality ~ emo.sim + day_scaled + (emo.sim|actor.id) + (1|partner.id)
+ (1|team), data = data_H1)
```

All of the other models follow the same equation as formatted above.

Table 4: Results of 4 Multilevel Models

Results

	Dependent variable:			
	Shared Reality (1)	Job Satisfaction (2)	Productivity (subjective) (3)	Productivity (objective) (4)
Perceived Emotional Similarity	-0.17***	-0.16***	-0.18***	-0.16***
	(-0.18, -0.15)	(-0.18, -0.14)	(-0.21, -0.16)	(-0.18, -0.14)
Day	-0.04***	-0.04***	-0.04***	-0.03***
	(-0.04, -0.03)	(-0.05, -0.04)	(-0.05, -0.03)	(-0.04, -0.02)
Constant	0.16***	0.15***	0.18***	0.15***
	(0.15, 0.17)	(0.13, 0.17)	(0.15, 0.20)	(0.13, 0.17)
Number of Teams	155	155	155	155
sd(Team)	0	0	0	0
N	137202	70010	68727	68320
Note:				*p<0.1; **p<0.05; ***p<0.01

Results

Table 4 (above) shows the results of the 4 multilevel models that I ran. To reiterate, I will only be interpreting the fixed effects for the predictor of interest (perceived emotional difference). The results of model 1 show that there is a significant relationship between perceived emotional difference and shared reality when controlling for day (b = -.17, p<.001, 95% CI = [-.18, -.15]). For every point increase in perceived emotional difference, there is a 0.17 point on average decrease in shared reality while holding all else constant. To restate, the negative relationship between the 2 variables is a result of how perceived emotional difference is coded, where a lower score indicates more perceived emotional similarity. As such, the results can be interpreted as increased perceived emotional similarity between team members is associated with greater shared reality.

Model 2 also shows a significant relationship between perceived emotional difference and job satisfaction when controlling for day (b = -.16, p<.001, 95% CI = [-.18, -.14]). This can be

interpreted as for every point increase in perceived emotional difference, there is a 0.16 point on average decrease in job satisfaction while holding all else constant. This can be interpreted as increased perceived emotional similarity between teammates is associated with an increase in job satisfaction.

Model 3 shows a significant relationship between perceived emotional difference and subjective productivity when controlling for day (b = -.18, p<.001, 95% CI = [-.21, -.16]). More specifically, for every point increase in perceived emotional difference, there is a 0.18 point on average decrease in subjective productivity while holding all else constant. This can be interpreted as increased perceived emotional similarity between team members is associated with a rise in self-reported productivity.

Model 4 shows similar results to model 3, where there is a significant relationship between perceived emotional difference and objective productivity when controlling for day (b = -.16, p<.001, 95% CI = [-.18, -.14]). This can be interpreted as for every point increase in perceived emotional difference, there is a 0.16 point on average decrease in objective productivity while holding all else constant. This result mirrors the results for self-rated productivity, where increased perceived emotional similarity is associated with a rise in partner rated actor productivity.

Discussion

Overall, the results of the multilevel models corroborate the results obtained from the multiple regression models. These results support my hypotheses that when employees perceive more emotional similarity with their teammates than usual they will feel more satisfied, be more

productive, be rated as being more productive by their teammates, and report greater shared reality.

However, the results are virtually the same when comparing the different modeling approaches. More specifically, the estimates and standard errors obtained from the multiple regression and the multilevel model did not differ much. This is somewhat surprising because utilizing the multilevel model was a means to account for more of the variance in the dependent variables. However, the results show that the inclusion of random effects for team membership and partner did not actually account for more variance in the predicted variables compared to the multiple regression. Therefore, even though the analytic method was more rigorous and suitable for the nested nature of the data at hand, the explanatory power of the multilevel model did not increase. One possible explanation could be that the predictor variables are not sufficient to capture the variation within the dependent variables. A solution could be to add other predictors or controls which could potentially increase the explanatory power of the model and generate meaningful insights. Although it should be noted that adding more predictors could simply inflate the R^2, therefore, predictors should be added intelligently to avoid this problem. Another way to mitigate this issue is to take note of the adjusted R^2, which penalizes one for adding too many predictors as a means to artificially inflate the proportion of variance explained by the model.

This particular dataset offers an ecologically valid way of looking at my research question, since the study design allows me to observe the organic dynamics within an organization where employees work in teams. However, the benefits of ecological validity come at the cost of direct causal inference. Since this study merely observes perceived emotional similarity but does not manipulate it, conclusions drawn from the analyses could be subject to multiple explanations. It cannot be assumed that perceived emotional similarity is only a result of

interactions between workers in the office because the study does not control for external influences. In particular, the data does not inform on the cause of perceived emotional similarity between 2 team members, it only indicates that 2 team members experienced converging emotions. For example, person A may perceive high emotional similarity with person B, but their emotional convergence may have been a result of different reasons (e.g. person A may be happy because they got a raise and person B may be happy because their baby was born). The data will simply show that person A and B score high on emotional similarity on a given day but will not provide the specific reason. As a result, causal explanations cannot be so readily drawn from the analyses and interpretations would need to be made cautiously as emotional synchrony can be incidental rather than related to interactions within the work environment.

Future research could design an experiment where perceived emotional similarity of individuals within preexisting teams is manipulated to examine the research question in more depth and generate causal explanations. Activities that require collaboration could be used as a substitute for working together within an organizational setting. Although the use of preexisting teams could leave the experiment open to other biases because teams may come into the study with preexisting dynamics (e.g. like or dislike of other teammates) which may be unknown to the researchers. Furthermore, it is also difficult to recruit preexisting teams and it would also be a costly endeavor to ensure all team members participate in the study. Another avenue that is worth pursuing is to investigate whether the relationship between shared reality and perceived emotional similarity is bi-directional. In particular, whether increasing shared reality would predict greater perceived emotional similarity.

Conclusion

Working with this dataset required a lot of data restructuring to create columns that reflected my variables of interest. Prior to running any models, the entire restructured dataset had to be transformed again into a long format such that each column corresponded to a single variable and each row represented actors responding to different items. This was the best way to conduct a fine-grained analysis on whether each employee's perceived emotional similarity to each teammate would predict my 4 predictors of interest (shared reality, job satisfaction, subjective and objective productivity). Through this project, I learned a lot about restructuring data in a way that allowed me to thoroughly examine my research question. Furthermore, I also learned how to fit and interpret a multilevel model in R, which I have never done previously. In the future, I aim to gain a better understanding of how to fit multilevel models to nested data so that I can improve on the model I have fit for this project. I will also like to explore how to visualize a multilevel model in a way that conveys all the information inherent to the model and lends itself to interpretation.

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