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The Effects of Rapport Building on Performance and Discretionary Effort

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The Effects of Rapport Building on Performance and Discretionary Effort

by

Scott Michael Curry

A thesis submitted to the Florida Institute of Technology
in partial fulfillment of the requirements
for the degree of

Masters of Science
In
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&
Organizational Behavior Management

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-

We the undersigned committee hereby approve the attached thesis, “The Effects of Rapport Building on Performance and Discretionary Effort” by Scott Michael Curry.

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Abstract

Title: Effects of rapport Building On Performance

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A common concern among business professionals is that rapport building or positive relationships in the workplace can enhance organizational outcomes and employee satisfaction. However, limited research has systematically tested and evaluated the effects of rapport on performance or discretionary effort. Thus, the purpose of the current study was to examine the effects of rapport building on performance and discretionary effort in comparison to no rapport building in an analogue setting. Participants in the present study consisted of 48 undergraduate students who were placed into either the rapport or non-rapport group. Participants completed a check-processing task to evaluate performance and were asked to complete an optional survey to evaluate discretionary effort. The results indicated that rapport-building group produced higher levels of performance and engaged in more discretionary effort in comparison to the non-rapport-building group.

Keywords: Rapport, Discretionary Effort, Performance

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The Effects of Rapport Building on Performance and Discretionary Effort

Many managers and supervisors are concerned with their supervisees' performance and seek out simple strategies to improve it. One variable that may influence performance is the quality of a supervisor's work relationships or rapport with her supervisees. Merriam-Webster defines rapport as, "a relationship characterized by mutual understanding, or empathy that makes communication possible or easy" (Merriam-Webster, 2018). Disciplines like counseling and clinical psychology have referred to rapport as "likeability" (Aronson, 1984) and "empathy" (Roberts & Bouchard, 1989). Parsons, Bentely, Solari, and Reid (2016) described rapport as, "familiarity with staff by spending time on preferred activities and phasing into the participant's routine". For the purposes of this study, a variation of these definitions will be used and rapport will be defined as, "familiarity with another person through positive interactions".

Other fields describe rapport using a construct but in applied behavior analysis it would be defined as a specific set of behaviors that you engage in to develop rapport. Rapport behaviors that we can measure and define within our own verbal behavior would include asking open ended questions about preferences, previous experiences, and personal and professional interests. It is also likely that rapport behaviors include positive praise and agreements statements in relation to another person's interests. Rapport behaviors could also be observed and measured by the frequency or ratio of positive verbal statements made by a listener

responding in relation to a speaker's verbal behavior.

Rapport-building behaviors have commonly been grouped into one of two categories, verbal or nonverbal (Norling, 2003). Examples of nonverbal rapport behaviors include physical contact like a handshake, eye contact, body orientation (leaning forward towards an individual) / proximity, nodding, and smiling. These non-verbal behaviors may indicate that the person is listening to and interested in what is being said, which the person speaking may find positively reinforcing. Examples of verbal rapport building include asking open ended questions like, "What are your professional interests?", "How did you initially become interested in that topic?", "Where would you ideally be in 10 years?" and, "I am interested in hearing your thoughts on this new business proposal". Open-ended questions may allow for an individual to become more familiar with the other person and learn their preferences. It may also result in a shared positive experience. Another example of verbal building rapport is making positive statements about something the other person has said. Making generally positive statements could result in the person making those statements becoming established as a positive stimulus. Together, these rapport-building behaviors may establish the person building the rapport as a discriminative stimulus for positive reinforcement. Additionally, rapport may increase the value of the feedback and praise delivered by that person.

Research indicates that good work relationships or rapport can positively impact a wide variety of important organizational outcomes including job

satisfaction (Eisenberger, Cummings, Armeli, & Lynch, 1997), productivity (Baruch-Feldman, Brondolo, Ben-Dayana, & Schwartz, 2002), employee engagement, (Strickland et al, 2007), organizational citizenship behaviors (OCB) (Babcock-Roberson & Strickland, 1988), and extra-role performance (Hui, Law, & Chen, 1999).

Additionally, Turner, Fisher, and Luiselli (2016) outlined some negative implications of poor supervisor-employee rapport including detrimental avoidance or escape behaviors exhibited by employees who are unwilling to approach their supervisors with questions or concerns and may seek advice from other less qualified individuals. This suggests that building rapport to establish good work relationships could impact an organization's overall performance, bottom line, and employee satisfaction. In addition, strong rapport could reduce the need for other, more intensive interventions aimed at strengthening performance. For example, if strong rapport increases the value of manager feedback, it may need to be delivered less often to have an impact.

One discipline interested in impacting employee performance is Organizational Behavior Management (OBM). OBM is a sub-discipline of Behavior Analysis and uses the science of behavior and associated techniques to positively influence individual and group workplace performance (Daniels & Bailey, 2014). OBM researchers and practitioners seek to identify behaviors important to employee performance, establish measurement systems to track these

behaviors, and provide meaningful consequences to encourage those behaviors and achieve positive business outcomes. OBM has repeatedly produced empirical evidence to support the use of positive reinforcement as an effective tool for increases in productivity and organizational outcomes (e.g., Fox, Hopkins, & Anger, 1987; Green, Parsons, & Reid, 1996; Komaki, Barwick, & Scott, 1978; Lamere, et. al., 1996; Methot, Williams, Cummings, & Bradshaw, 1996).

It is sometimes suggested in OBM that positive reinforcement can strengthen rapport and in turn, performance and discretionary effort (Daniels & Bailey, 2014). Limited research suggests that rapport-building behaviors like asking questions may impact performance. For example, research in safety has demonstrated that supervisor conversations with front line employees can result in improved safety performance (Zohar & Luria, 2003; Zohar & Polachek, 2014). However, none of these studies included a measure of rapport or discretionary effort.

Loyd (2008) defined discretionary effort as, “voluntary effort directed toward organizational goals above the minimum work required”. In other words, discretionary effort is performance that exceeds the pre-established expectations for performance. For example, doing more work than required or helping a coworker could be considered discretionary effort. Although OBM practitioners often describe discretionary effort as important to business (Daniels & Bailey, 2014), there is no experimental research in OBM directly examining it. However, research

outside of OBM supports this notion, demonstrating that positive work relationships increase the likelihood that employees will go out of their way for the benefit of the organization (e.g., Arakawa & Greenberg, 2007; Falender et. al, 2004; Harter, Schmidt, & Hayes, 2002). This evidence that rapport building may improve performance and discretionary effort suggests that OBM researchers should spend time exploring the impact of rapport as an intervention tool.

Rapport and OBM

As previously stated, and a limited amount of research and anecdotal narratives that suggest that rapport may be important for establishing positive work relationships and encouraging performance and discretionary effort. Many of the common interventions used in OBM, such as frequent feedback, praise, and goal setting may establish a positive relationship between an employee and the supervisor. In addition, antecedent interventions like task clarification, reducing response effort, and training, create an opportunity for supervisors to enable employees to complete their job effectively and interact with employees and thus, may also strengthen rapport. Alvero, Bucklin, and Austin (2001) found that feedback delivered by a supervisor produced more consistent effects than feedback delivered by consumers, experts, and researchers. It is possible this finding occurred because employees may have a stronger relationship with their supervisor than consumers, experts, or researchers. Therefore, it is feasible that the relationship established with the person delivering the feedback could impact its

effectiveness. Furthermore, a manager who has built good rapport through repeated positive interactions may be established as a discriminative stimulus, signaling the availability of positive reinforcement. (Hirst, DiGennaro Reed, & Reed, 2013). Good rapport could serve as an establishing operation, increasing the value of feedback and praise delivered by the manager, which may lead to improved performance.

Gibson, Grey, and Hastings (2009) examined the impact that quality of relationships between supervisor-supervisee had on supervisee burnout and therapeutic self-efficacy. The quality of supervisor-supervisee relationship was measured based on the support supervisors provided to their supervisees. In this study, 81 Applied Behavior Analysis school therapists completed questionnaires that examined whether supervisor support minimized burnout and increased self-efficacy. The results of this study indicated that, “High levels of perceived supervisor support were associated with reduced emotional exhaustion, reduced depersonalization, increased personal accomplishment, and increased perceived therapeutic self-efficacy” (p. 1029) which in turn has the potential to reduce burnout rates in employees.

Other research in clinical settings corroborates the notion that support provided by supervisors is positively correlated with outcomes like supervisors’ competency or ability to teach supervisees how to adequately build rapport with parents (Eikeseth, Hayward, Gale, Gitlesen, & Eldevik, 2009) which can reduce

parent stress and improve the effectiveness of early intervention treatment (Osborne, McHugh, Saunders, & Reed, 2008). Moreover, the use of increased frequency of supervision (i.e. weekly or bi-weekly) has resulted in an increase in the effectiveness of interventions and the number and quality of outcomes achieved (Lovaas 1987). This further suggests that interactions with supervisors are important for improving and maintaining work performance.

In behavioral safety, researchers have begun to examine the impact of safety conversations on safety measures in organizations. Zohar and Luria (2003) used feedback to increase the frequency of safety related conversations by supervisor to front line workers. As the frequency of safety related conversations increased, the percentage of safe behaviors increased relative to at-risk behaviors as well as climate scores. In a related study, Zohar and Polachek (2014) encouraged more safety dialog by providing feedback to supervisors and found a subsequent increase in safety behaviors, safety climate, and safety audit scores whereas the control group remained unchanged. These data suggest that conversations between supervisors and employees about performance may positively impact that performance. However, it is unclear if the rapport built during those conversations accounted for any of the improvements in safety observed.

Rapport in ABA

In addition to the limited OBM research on rapport, other areas of behavior analysis have examined the topic. Previous behavior analytic research related to rapport has found that more positive interactions between staff and clients produces higher levels of client “happiness” (e.g., Favell, Realon, & Sutton, 1996; Kemp & Carr, 1995) and reduced problem behavior (Magito McLaughlin & Carr, 2005; Parsons, Bentely, Solari, & Reid, 2016). Magito Mclaughlin, and Carr (2005) described rapport as a social setting event. A setting event can be defined as any environmental stimuli that functions as an antecedent including a physical, social, or physiological event that increases the probability of a specific behavior. In the first of this two-part study, researchers systematically examined the effects of “good” and “poor” levels of rapport with clients on the latency of problem behavior in demand and no demand conditions of a functional analysis as well as task completion. Rapport levels were determined through surveys given to both clients and staff, rating the quality of the relationship. Thus, clients were exposed to four conditions: 1) poor rapport and demands, 2) poor rapport and no demands, 3) good rapport and demands and, 4) good rapport and no demands. Participants included three individuals that were diagnosed with autism and/or mental retardation and were selected based on a history of problem behavior with specific staff members. Staff members were selected for each dyad using the following criteria. They used a self-report 5-point Likert scale for three clients on the satisfactory rating of staff

members from 0 being unsatisfied, to 5, being satisfied with the relationship between the staff member. They also used a self-report staff ranking scale where peer staff ranked the quality of the staff member's relationships with clients from one to seven. The criteria for staff to serve as participants in the "good" rapport dyad required three criteria: a) they were selected by the client on a minimum of 4 of 5 trials, b) they scored a 4 or a 5 on the self-ratings from clients, and c) they were in the top 50th percentile in relation to other staff members. Poor rapport was defined using the same criteria with the exception of each of the scores where they were a) selected 0 - 1 of 5 trials, b) the self-reported client scores being 0-3, and c) were ranked in the bottom 50th percentile in comparison to other staff members. Results from study 1 indicated that problem behavior occurred more frequently and for longer durations in the "poor" rapport conditions in comparison to "good" rapport conditions.

The purpose of study 2 was to evaluate a package intervention consisting of noncontingent reinforcement, responsively training where individuals were coached on how to acknowledge communication attempts, identify possible function, and address identifiable needs or requests, and training on turn-taking during activities identified as mutually preferred for the client and staff on improving rapport, reducing problem behavior, and increasing task completion. Staff members received training during eight coaching sessions that occurred over the course of 10

to 13 weeks on how to build rapport with clients. Training consisted of coaching on how to provide noncontingent reinforcers with the hope of establishing the staff member's presence as a generalized reinforcer, five responsively training sessions to reduce the latency between client and staff interactions and improve communication, and four other coaching sessions on "turn-taking" during mutually preferred activities (Magito McLaughlin & Carr, 2005).

Results from study 2 found a moderate increase in subjective reports on the satisfaction scores for 3 of the 4 poor rapport participants, from an average of 2.75 to 4. Percentile rank in comparison to other staff members also increased from 11% to 22%, 44% to 65%, and 15% to 31%. Additionally, they observed decreases in problem behavior and increases in the percentage of correctly completed steps for each task. This suggests that interactions do in fact influence the quality of the relationship and that this relationship is linked to the success or quality of services provided.

Parsons, Bentely, Solari, and Reid (2016) conducted a follow-up study to Magito McLaughlin and Carr (2005) where they compared compliance in the presence of familiar and unfamiliar staff. They found that participants were more compliant with familiar staff compared to unfamiliar staff. Next, they familiarized clients and staff by having staff spend time engaging in clients' preferred activities and incorporating these activities into their daily routine. A familiar staff member also coached the unfamiliar staff member on client preferences during interactions.

They observed higher rates of compliance when staff were familiarized in comparison to staff members who were unfamiliar. They also measured *indices of happiness and unhappiness* through a questionnaire for staff to identify behaviors associated with being happy or unhappy as an indicator for quality of life. They observed increased levels of indices of happiness of clients during interactions with familiarized staff in comparison to unfamiliar staff.

Current Study

Previous behavior analytic research by Magito McLaughlin and Carr (2005) on the topic of rapport building in clinical settings has provided evidence that rapport may impact performance. Additionally, research has demonstrated that the relationship between the therapist and client can have a significant impact on the quality and effectiveness of treatment delivery (Magito McLaughlin & Carr, 2005; Parsons, Bentely, Solari, & Reid, 2016), which is a type of performance. Moreover, limited research in safety suggests that rapport building behaviors may impact performance (Zohar & Luria, 2003; Zohar & Polachek, 2014) and research in other disciplines supports the notion that rapport may impact discretionary effort. Outside of behavior analysis, research has demonstrated that positive work relationships can lead to better performance and extra role behavior, which is akin to discretionary effort (e.g., Arakawa & Greenberg, 2007; Falender et. al, 2004; Harter, Schmidt, & Hayes, 2002). This suggests that rapport may be an overlooked intervention tool in OBM and requires further examination.

Therefore, the purpose of this study was to examine the effects of rapport building on performance and discretionary effort in an analogue setting. The study took place in a simulated work environment and two groups were compared, one exposed to rapport building and one exposed to no rapport building. Participants completed a work task used to compare performance as well as a long, voluntary survey following the session to evaluate discretionary effort.

Method

Participants and Setting

Participants in this study consisted of 48 undergraduate students (24 males & 24 females) with an average age of 20.7 (range, 18 – 71) were randomly assigned to the rapport-building group (12 males & 12 females) or the non-rapport-building group (12 males & 12 females) in an alternating fashion. Participants were recruited through an online university based subject pool management system called SONA, in which participants were able to voluntarily sign up and receive extra credit for a course for their participation. Two students, one in each group, were also recruited via word of mouth in an undergraduate classroom and one received \$10 for completing the study instead of receiving extra credit. Research sessions in total lasted approximately one hour while the duration of their productivity session where their performance was measured lasted on average 42 minutes. All sessions took place in a small room equipped with a computer in a simulated work setting in a university research room.

Dependent Variables and Data Collection

Productivity. The primary dependent variable was the number of checks completed on a check processing work task per 40-minute session. The simulated check-processing task (Appendix A), used in previous OBM research (e.g., Johnson, Rocheleau, & Tilka, 2015), is designed to mimic data entry of a bank teller and it automatically collects data on performance. The check value was displayed on the screen and consisted of any amount between \$100.00 and \$999.99, where participants then entered the amount into a separate blank in the computer program. Two additional dependent variables were also measured automatically by the program: 1) Duration of time spend off task (break), and 2) Number of errors.

Discretionary effort. To evaluate discretionary effort, participants were told that another survey would be sent to them via email after the session. A script was used and participants were told, "I also have an optional survey that you have the option of completing. It is entirely optional and not required as you have completed all of the necessary requirements for participating in this study. I will send you a link to the survey if you have any interest in filling it out." Discretionary effort was evaluated by determining the percentage of participants that completed the survey, number of questions answered, duration of time on survey and the word count per survey for each group (See Appendix B for the survey.) The survey was sent through Qualtrics and each group had a separate survey link; individual responses were anonymous. The survey automatically saved each response after

the participant clicks to advance to the next question in order to document how many questions they completed if they did not finish the entire survey.

Procedure

Informed consent and inclusion criteria. At the start of the study, participants received a written copy of the informed consent and the experimenter verbally reviewed the informed consent before they were given the opportunity to sign the document and decide whether to participate. Participants who signed up for the study had the option to either decline or agree to participate in order to receive SONA credit or \$10. Once participants had given their verbal and written consent by signing the consent form participants were still be able withdraw their consent at any time throughout the study without any repercussions.

Group assignment. After obtaining informed consent, participants were placed in either the no rapport building condition or the rapport building condition in an alternating fashion based on when they signed up to participate.

Independent variable. For the purpose of the current study, rapport was attempted to be established by the experimenter familiarizing themselves with the person by using a checklist with predetermined to ask open-ended questions, and providing positive statements or agreement statements as praise such as “that is really interesting I would love to live in a city by the beach!”. Examples of the rapport open ended questions included, “What is your most cherished memory?” and “what would you do if money was not a factor?” and “if you had to choose to

have dinner with anyone past or present who would you choose?” in order to identify some shared interests. Alternatively, the non-rapport group was asked closed in questions using a checklist with predetermined questions to ask like, “how many classes are you currently taking?”, “do you have a favorite super hero?” and “how many times each week do you eat out?” Rapport building sessions occurred prior to the start of training and the one forty-minute work session. The questions for the non-rapport group took on average 2-minute (range of 2 to 4) to complete and the questions for the rapport building group took on average 9-minute (range of 5 to 19) to complete. Each group was asked a series of fifteen questions from a predetermined list of open ended questions for the rapport building group and close ended questions for the non rapport building group (see Appendix C). See appendix D for a transcript for common verbal exchanges in the rapport building group. In the attempt to establish rapport in the rapport building group, the experimenter did the following, which align with the methods used to establish rapport in previous research (Magito McLaughlin & Carr, 2005; Parsons, Bentley, Solari, & Reid, 2016):

- A) Asked open ended questions (to identify preferred activities)
- B) Asked two follow up questions (responsivity)
- C) Smiled, made eye contact while responding, leaned towards the participant, and did not have any electronic devices open (nonverbal cues).

D) Made positive statements like, “that is interesting” or “great” after every question (positive praise).

The control group was asked similar ten closed ended questions (Appendix E). However, in order to limit the amount of rapport built, the experimenter did the following during sessions:

- A) Asked no follow up questions
- B) Limited eye contact, look at clipboard while participant answers questions
- C) Avoided making any positive statements after speaking.
- D) Divulged no personal information.
- E) Avoided making positive statements while explaining the experimental task.
- F) No smiling

Treatment integrity. Treatment integrity was scored by independent observers who had a checklist of the questionnaires and checked off if each question was asked, positive praise statements were made for each question, and whether or not a praise or agreement statements, were made by the experimenter, and the number of questions asked during the rapport building and non-rapport building sessions. Independent observer was present during 27% (13) of all sessions and 29% (7) for the non rapport-building group and 25% (6) in the rapport-building group. Treatment integrity was 97% (range, 91% - 100%) across

both groups. Self-report treatment integrity was 98% and occurred 76% of all sessions. Participants were told that the independent observers were simply being trained on how to run sessions. The minimum threshold for treatment integrity was 80% for each session to be included. Otherwise, any session that has less than 80% treatment integrity was discarded. No sessions were discarded due to low rates of treatment integrity.

Rapport ratings. Immediately following the 40 minute productivity session, participants were asked to complete an anonymous five-question survey about their rapport with the experimenter (Appendix F) as an integrity check to evaluate if rapport was developed. The survey was completed on the computer and took approximately one minute to complete. A separate survey link was created for participants in the rapport condition and no rapport condition.

Productivity sessions. After the experimenter completed the rapport or non-rapport questions, participants received a brief training session from the experimenter on how to correctly complete the experimental task. Training followed a behavior skills training approach in which the experimenter provided instructions, modeled a correct entry, and provided them with an opportunity to practice, and provide feedback on how to enter in check values. Then, the experimenter left the room and participants completed the task. After 40 minutes elapsed, the experimenter entered the room to conclude the session.

Post-session surveys. Participants were given the rapport ratings survey to complete. Then, each participant was told about the discretionary effort survey and extra credit was granted.

Results

Table 1 displays the mean scores and significance test results for the rapport building group and the non-rapport building group for each measure of productivity and discretionary effort. Table 2 depicts the mean scores and significance test results for the rapport survey.

Productivity

The top panel of Table 1 depicts the mean scores for each performance dependent variable for the rapport building group and the non-rapport building group. The p-values are also displayed.

Number of checks completed. An independent t-test was conducted to evaluate the difference in means between the rapport-building group and the non-rapport building group on number of checks completed. The result indicated that there was a significant difference in number of checks completed for the rapport-building group ($m = 565.3$, $SD = 127.2$) compared to the non-rapport building group ($M = 497$, $SD = 147.9$); $t(1.71) = 46$, $p = 0.043$.

Errors. An independent t-test was conducted to compare the mean number of errors for each group. The results indicated that there was not a statistically significant difference in errors between the two scores for the rapport-building

group ($m = 12.21$, $SD = 9.8$) and the non-rapport building group ($M = 9.45$, $SD = 6.62$); $t(1.137) = 46$, $p = 0.130$.

Breaks. An independent t-test was conducted to compare the mean duration of breaks for each group. Results indicated that there was not a statistically significant difference between the duration of break with the rapport-building group ($m = 183.8$, $SD = 243.6$) and the non-rapport building group ($M = 229.5$, $SD = 367.5$); $t(.509) = 39.94$, $p = 0.306$.

Discretionary Effort

The bottom panel of Table 1 depicts the mean scores for each discretionary effort dependent variable for the rapport building group and the non-rapport building group. The p-values are also displayed.

Survey completion. In the rapport-building group, 14 participants (58%) took the survey and 8 participants (34%) took the survey in the non-rapport-building group. A chi-square test for independence was calculated to compare survey completion for each group and the results indicated that there was not statistically significant difference; $\chi^2(1.13)$, $p = .288$.

Survey question completion. An independent samples t-test was conducted to compare the average number of questions answered in the discretionary effort survey for each group, which included the data from participants that did not take the survey. Results indicated there was a statistically significant difference between

the rapport-building group ($m = 46.67$, $SD = 47.13$) and the non-rapport building group ($M = 22.71$, $SD = .37.42$); $t(1.95) = 46$, $p = .0286$.

Word count per survey. An independent samples t-test was conducted to compare the mean number words entered into the survey for each group, which also included the data from participants that did not take the survey. There was not a statistically significant difference between the rapport-building group ($m = 109$, $SD = 203.7$) and the non-rapport building group ($M = 34.88$, $SD = .97.35$); $t(1.61) = 32.99$, $p = .0585$. It should be noted that the p-value approached significance.

Time spent on survey. An independent t-test was conducted to compare the mean duration of time spent completing the survey for each group, which also included the data from participants that did not take the survey. There was not a statistically significant difference between the rapport-building group ($m = 496.3$, $SD = 1169$) and the non-rapport building group ($M = 152.1$, $SD = 303.8$); $t(1.397) = 46$, $p = .0846$.

Rapport Building

The average score for each question for each group for the rapport building survey are presented in Table 2. Cronbach's alpha for the 6-item scale was .705. Results of a t-test for independence indicate that there was not a statistically significant difference between the average response in the rapport-building group

($m = 4.83$, $SD = 1.31$) and the non-rapport building group ($M = 4.80$, $SD = 1.17$); $t(207) = 238$ $p = .418$.

Discussion

The purpose of this study was to evaluate whether rapport building resulted in higher levels of performance and discretionary effort. Results indicated that participants in the rapport-building group completed significantly more checks than participants in the non-rapport group. This totaled 68.3 more checks in the rapport-building group, which was 14% more than in the non-rapport group. Participants in the rapport-building group also completed significantly more of the optional survey than those in the non-rapport group, which was a measure of discretionary effort. The rapport building group completed 46.67% of the optional survey whereas the non-rapport building group only completed 22.71% of the survey, a difference of almost 24%. Furthermore, another measure of discretionary effort, word count in the optional survey, approached significance. And lastly, all of the measures were more favorable for the rapport group compared to the non-rapport group, even when statistically significant differences were not observed. Overall, the results of this study suggest that a relatively small amount of time spent building rapport could have a positive impact on performance and discretionary effort.

Rapport Building and Performance

This was the first behavior analytic study to examine rapport in an analogue work setting. The results of this study support previous rapport research by Magito, McLaughlin and Carr (2005) and Parsons, Bentely, Solari, and Reid (2016) who found that clients who work with familiar staff engaged in higher levels of performance. However, these studies specifically evaluated on-task behavior and while those in the rapport-building group in the current study took less breaks, it was not statistically significant. Still, the primary performance measure of check completion was significantly higher in the rapport-building group. This study and the previous research suggest that individuals can engage in rapport building behaviors that, in turn, may influence the performance of others in a meaningful way. A 14% increase in performance across a year could have a significant impact on organizational results.

Discretionary Effort

This was the first known study in behavior analysis to directly evaluate an intervention for increasing discretionary effort defined as doing more than the pre-established work expectations. Results indicated that the group exposed to rapport building completed more of the survey. Although the other measures of discretionary effort (survey completion, word count, and time spent on survey) were not statistically significant, each resulted in more favorable scores for the rapport building group compared to the non-rapport building group, particularly for

word count, which approached significance. Therefore, it is possible that an increase in sample size could reveal a statistically significant difference for the other measures. This finding suggests that discretionary effort is mutable and worthy of further study. Additionally, these results possibly suggest that rapport building may be capable of impacting a range of work-related concerns.

Rapport Survey

It should be noted that the rapport-scale given at the end of each session did not reveal a statistically significant difference between groups and therefore, it is possible that the rapport-building behaviors did not increase rapport, rather, some other mechanism was responsible for the differences obtained. The scores in both groups were positive, which may have been due to the fact that both groups had questions and interactions with the experimenter, the short duration of the study with an unfamiliar researcher, earning extra credit for participating, or because the students filled out the survey while the researcher was just outside of the room. It is possible that these factors resulted in high scores overall and therefore, a statistically significant difference was not detected.

It is also possible that some other element of the study was responsible for the observed differences. For example, asking questions may have created behavioral momentum for task completion. Additionally, responding to questions about positive experiences may have positively impacts subsequent performance, independent of the researcher being present to ask those questions.

The largest difference in the rapport survey questions was observed for the question asking participants if they enjoyed participating in the study. This could suggest that building rapport may lead to increase work task enjoyment and this could be explored further in future research.

Behavioral Mechanism

Although the underlying behavioral mechanisms explaining how rapport building may impact performance and discretionary effort were not directly evaluated in this study, we can speculate on potential mechanisms that could be explored in future research. One possibility may be that familiarizing oneself with supervisees allows individuals to better understand supervisees preferences and mutually identify similar experiences or interests that can elicit a positive emotional response. Repeated exposure to positive emotional responses could lead to supervisors being associated with these positive experiences and thus establish the supervisor as a conditioned reinforcer. If the majority of your verbal episodes and work experiences alongside your supervisor are positive, it is possible that this variable alone could be responsible for increased levels of performance and discretionary effort in order to maintain or increase socially-mediated access to positive reinforcers like praise, approval, and feedback. This positive relationship may also function as a motivating operation, increasing the reinforcing value of feedback and praise delivered by the supervisor.

Workplace Implications

These results suggest many potential implications for managers and supervisors to consider. Managers and supervisors should consider attempting to establish rapport at the onset of a working relationship. Simply spending a small amount of time positively interacting with a supervisee may increase productivity and discretionary effort in supervisees. Rapport building also has the potential to improve the implementation and impact of other workplace interventions aimed at improving performance and discretionary effort. Rapport building could allow supervisors to select interventions that require lower response effort that produce larger and more significant improvements. This could help improve sustainability and facilitate maintenance and generalization behaviors that occur after an intervention has already been implemented. Before these potential benefits can be realized, more research is needed addressing the limitations of this study.

Limitations

One limitation of this study was the use of an artificial work setting, which limits the generality of these results to actual workplace settings. There are many other contingencies in the workplace that are not present in a simulated work setting. For example, performance evaluation and management systems, deadlines, coworker and customer interactions, and life events can impact work performance. Furthermore, supervisor and employee interactions are likely not always positive and rapport is presumably built (and damaged) across many interactions over time.

And finally, sessions only lasted forty minutes, which is a small percentage of the actual workday. It is possible that performance effects would become negligible if session duration was increased.

There were also some limitations in the design of the study. First, there were only 48 participants, 24 in each group. Some variables in the study, such as survey word count and duration, may have been statistically significant if power was increased by including more participants. It is also possible that the duration of rapport building was too short to achieve statistically significant differences on all measures. Rapport-building only lasted an average of nine minutes and it is possible that the threshold for experiencing rapport was not met. The lack of difference in the rapport ratings for each group corroborate the idea that rapport building may have required more time.

Another limitation of this study is that the responses for the optional survey were anonymous, and therefore we were unable to compare the individual optional survey results to other dependent variables to evaluate if any other correlations existed. Next, a control group that did not receive any type of formal personal preference questions was not included. It is possible the non-rapport building sessions, which still included questions, resulted in some rapport being established. Lastly, the structured open-ended questions were rigid and did not facilitate a natural conversation. There were multiple occasions where the experimenter would

have to move to the next question instead of asking a follow up question, which could have limited the rapport building.

Future Research

Numerous opportunities for future research based on these findings exist. First, researchers could examine the individual components that influence rapport building to determine what aspects of the experience influence performance. Each of these components could be manipulated on a parametric analysis (e.g., greater or fewer questions asked) to determine if there is a relationship between the amount of rapport building that occurs and the impact on performance. Further, a control group that includes no question asking should be included.

Research could also examine the use of questions that evoke positive versus negative responses during the rapport sessions. If rapport is built through positive interactions, then questions evoking negative responses should not impact rapport as much as questions leading to positive responses. Alternatively, questions that evoke negative responses could be used in both groups, but in one group the experimenter could respond with empathetic statements and in the other group the experimenter could respond with neutral statements. This may create more differentiation in rapport ratings between groups.

Experimenters could also evaluate the use of a more naturalistic approach, allowing for more flexibility in responses to questions in the rapport building group. This may lead to further development of rapport and more differentiation in

scores for the rapport survey. This may require recording sessions to score the qualitative differences in conversations and subsequent ratings of rapport with the experimenter.

Another area for research would be evaluating rapport development on males and females by a male or female experimenter. A cursory review of the data revealed that males appeared to be more impacted by the rapport development than females. The experimenter in this study was male and it is possible rapport was more easily built with male students for a number of reasons including potentially more shared interests or more comfort during a first meeting. A 2x2 factor analysis with a male and female experimenter and male and female participants could directly evaluate if a difference exists.

Lastly, the impact of rapport should be evaluated in the workplace to determine if increased rapport between supervisors and employees positively impacts work performance on a daily basis. This could be accomplished descriptively by first having supervisors and employees rate rapport and then compare those ratings with performance. Rapport could also be evaluated as an intervention tool, and supervisors could build rapport with low performing employees and evaluate the subsequent impact on performance. Lastly, rapport could be evaluated as part of an intervention strategy for another intervention package to see if rapport between the consultant or experimenter results in better procedural integrity and maintenance.

Conclusion

In conclusion, the results of this study suggest that rapport building may positively impact aspects of performance and discretionary effort in an analogue work setting. This indicates that rapport building may be a useful intervention in organizations for improving workplace performance, discretionary effort, and implementing interventions. The results of this study have supported previous research in that the relationship between supervisor and supervisee can impact performance and discretionary effort. Several limitations of this research exist, most notably the lack of similarity to the workplace. However, the results warrant further examination both in an analogue and work setting. If rapport can be used as an intervention tool for improving workplace performance and discretionary effort, it could prove useful for OBM leaders and consultants and could lead to less intensive intervention strategies.

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Table 1

Results: Average Performance, Discretionary Effort

Measure	Rapport	Non-Rapport	P-Value
Total # of checks completed	568 (239 - 779)	495 (196 - 692)	.043*
Total number of errors	12.2 (0 - 35)	9.6 (1 - 22)	.152
Duration of break in sec	184 (0 - 1010)	234 (0 - 1390)	.294
Participation %	58%	34%	.288
Completion %	46.67%	22.71%	.028*
Average word count	189.9 (0 - 914)	104.6 (0 - 458)	.058
Average survey duration	15m (14s - 94m)	7m 31s (20s - 16m 39s)	.084

Table 2

Results: Average Rating of Rapport

Measure	Rapport	Non-Rapport
Would you be willing to come in again to train another participant?	3.7 (1 - 6)	4.13 (2 - 6)
Overall, how would you rate the interactions with the experimenter?	5.33 (3 - 6)	5.37 (4 - 6)
On a scale of 1 - 6 how would you rate your rapport with the experimenter?	5.5 (3 - 6)	5.41 (4 - 6)
I would enjoy working with the experimenter in an actual work setting.	5.08 (1 - 6)	5.12 (4 - 6)
Overall I enjoyed participating in this study.	5.54 (2 - 6)	3.91 (1 - 6)

Appendix A
Check Processing Program

The screenshot displays the 'Check Verify Software' interface. At the top left, the text 'Check Verify Software' is visible. Below it, a blue bar contains a '0' and a 'Program Controls' section with three buttons: 'Start Task', 'Minimize Program', and 'Exit Program'. The main area is a yellow-bordered form for a check. The check is from 'John Doe' and is payable to 'Janet Levandowski' for the amount '\$ 405.98'. The amount is written in words as 'Four hundred five and 98/100 ***** Dollars'. The memo line is blank, and the signature line is 'John Doe'. At the bottom left of the form, the MICR line is shown as '| :00067894: | 12312120312 311'. Below the form, there is a blacked-out area, a text input field, and a 'Next Check >>' button. A small instruction at the bottom reads 'Enter only numbers and decimal (example 150.77)'.

Appendix B
Optional Discretionary Effort Survey

1. Age:
2. Ethnicity:
3. How would you describe your previous educational experiences?
4. Household Composition:
5. Do you live on campus and what are the perks of living on or off campus?
6. What is your employment status?
7. If so how many hours each week do you work and what are your job responsibilities?
8. Counting all locations where your employer operates, what is the total number of persons who work there? (1-20, 20 -50, 50 – 250, 250+)
9. What best describes the type of organization you work for? (for profit, non-profit, government, healthcare, education, other)
10. How many times have you been to the library this semester?
11. Have you ever visited career services center here on campus?
12. Do you have a car?
13. Do you have a linked in profile?
14. How would you describe what happened in this experiment to a friend?
15. What type of professional development exercises or activities would you like to engage in in order to expand your professional skillset and why?
16. What is your favorite book and how would you describe it to a friend if you were trying to convince them to read it?
17. Do you think research is a important aspect of academic that students should get involved in? Why or why not?
18. Do you think advancements in technology have a positive or negative impact on our ability to socialize or communicate with others?
19. What recommendations would you have for someone who is just starting their first year in college?
20. Do you think the use of standardized testing is a beneficial method for improving education in the US?

In Person Script:

“I also have an optional survey that you have the option of completing. It is entirely optional and not required as you have completed all of the necessary requirements for participating in this study. I will send you a link to the survey if you have any interest in filling it out.”

Email Script:

“Thank you for your participation in my research study! As a reminder, here is a link to the optional survey _____ if you wish to fill it out. If not that’s ok it is entirely optional and not required as you have already completed all of the necessary requirements for participating in this study.”

Appendix C

Rapport Building Script / Treatment Integrity Data Sheet

Participant ID: _____ Date: _____ Start Time: _____

1

Rapport Open-ended Questions:

1. What has been your favorite and least favorite class here at Florida Tech and why?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
2. What would you like to do post graduation and why?
 - Asked question
 - Smile
 - Make eye contact
 - Positive praise
 - a. What is your ideal job if money was not a factor and why?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
3. What is your current job and what is your favorite aspect of the job and why? **OR** What was your last job and what was your favorite aspect of that job?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
4. What is your most cherished memory and why?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
5. If you could wake up tomorrow having gained any one quality or ability, what would it be, and why?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
6. Do you have any interesting travel plans or have you traveled anywhere interesting lately?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
7. What are some of your favorite hobbies and why?
 - Asked question
 - Did not ask follow up question
 - Smile
- Make eye contact
- Positive praise

 - i. What originally got you interested in these hobbies?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise

 8. Given the choice of anyone in the world past or present, whom would you want as a dinner guest, and why?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
 9. What is your ideal place/city to live and why?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
 10. What is your favorite album/artist/band and why?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
 11. What is your favorite Movie of all time and why?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
 12. What is your favorite type of food / local restaurants and why?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise
 13. If you could only save three things in your home from burning down in a house fire what would you save and why?
 - Asked question
 - Did not ask follow up question
 - Smile
 - Make eye contact
 - Positive praise

End Time: _____

Total Duration: _____

Steps Completed: _____

% Steps Completed: _____

Appendix D
Rapport Transcript

1. What has been your favorite and least favorite class here at Florida Tech and why?
Participant: “My favorite class has been structural design because I had a really good teacher and I was able to create a project that helped me understand how to build things. My least favorite class would have to be a chemistry class because the teacher was boring and the subject was difficult to understand”
Experimenter: “That’s awesome to hear you had such a great experience! I think a good teacher really can have tremendous impact on the quality of a course and its always so much better when they are enthusiastic and willing to help! I would also agree with you I am not a huge fan of chemistry either and I never did very well when I took it in high school, it is a difficult subject to understand.”
2. What would you like to do post graduation and why?
Participant: “I would like to work for NASA or Space X I think they are doing a lot of really cool stuff.”
Experimenter: “That sounds super exciting! It looks like you’re in the perfect place then because Florida is a great place to be and space in general is just super cool. NASA is definitely a under funded program in comparison to what we currently spend our money on.”
 - a. What is your ideal job if money was not a factor and why?
Participant: “I would love to get paid to be a travel guide or a work with animals.”
Experimenter: “That sounds amazing I would love to travel or work closely with exotic animals.”
3. What is your current job and what is your favorite aspect of the job and why? **OR** What was your last job and what was your favorite aspect of that job?
Participant: “I work here on campus, I like the fact that I get paid, the hours are flexible, I get to interact with different people”
Experimenter: “That makes a lot of sense especially as a student, any additional money as a student is a plus!”
4. What is your most cherished memory and why?
Participant: “I would have to say traveling and spending time with my family during the holidays.”

Experimenter: "That sounds like a great time!"

5. If you could wake up tomorrow having gained any one quality or ability, what would it be, and why?

Participant: "Being able to fly I could travel anywhere anytime."

Experimenter: "Great choice I would have to agree with you on that one!"

6. Do you have any interesting travel plans or have you traveled anywhere interesting lately?

Participant: "I went to Europe last summer and visited Paris and Italy."

Experimenter: "That sounds like a great experience I've always wanted to go but haven't had the chance yet. I have friends that have been there and they say nothing but great things about it!"

7. What are some of your favorite hobbies and why?

Participant: "I really like to play soccer."

Experimenter: "That's really cool soccer is great sport!"

- i. What originally got you interested in these hobbies?

Participant: "I got started playing at a early age with my family."

Experimenter: "That's awesome that you found something you enjoyed at such a young age!"

8. Given the choice of anyone in the world past or present, whom would you want as a dinner guest, and why?

Participant: "Neil Degrease Tyson"

Experimenter: "Excellent choice! It would be great to sit down with them and hear their insights."

9. What is your ideal place/city to live and why?

Participant: "I would like to live in a big city but still have access to the beach or mountains."

Experimenter: "I agree it's nice to have a balance between a big city and still be able to explore nature."

10. What is your favorite album/artist/band and why?

Participant: "I really like the band sound tribe they are very unique and I've listened to all of their albums."

Experimenter: "That's sounds really cool I have never heard of them before but I will have to check them out!"

11. What is your favorite Movie of all time and why?
Participant: "Good will hunting"
Experimenter: "Solid choice that's a classic!"

12. What is your favorite type of food / local restaurants and why?
Participant: "Italian food"
Experimenter: "I would have to agree pasta is one of the things that I refuse to take out of my diet!"

13. If you could only save three things in your home from burning down in a house fire what would you save and why?
Participant: "My dog, my family, and my computer."
Experimenter: "Those are all certainly high priority things to save!"

Appendix E Non-Rapport Building Questions

Participant ID: _____ Date: _____ Start Time: _____

2

Non-Rapport Close -ended Questions:

- | | |
|---|---|
| <p>1. How many classes are you taking?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>2. What is your major?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>3. Are you employed?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>4. What is your favorite holiday?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>5. What is your favorite super hero?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>6. How many states have you been to in the US?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>7. How many hours each week to you spend on your computer?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>8. Who is a notable figure that you look up to?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question</p> | <p><input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>9. What is your ideal city to live in?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>10. What type of music do you listen to?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>11. How many hours a week do you spend watching TV?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>12. How many times a week do you eat out?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>13. Do you own any pets?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>14. What is your favorite sport?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> <p>15. What is your favorite movie?
 <input type="checkbox"/> Asked question
 <input type="checkbox"/> Did not ask follow up question
 <input type="checkbox"/> Smile
 <input type="checkbox"/> Make eye contact
 <input type="checkbox"/> Positive praise</p> |
|---|---|

End Time: _____

Total Duration: _____

Steps Completed: _____

% Steps Completed: _____

Appendix F
Concluding Survey

Please Rate the following questions on a scale of 1 (strongly disagree) to 6 (strongly agree)

1. Would you be willing to come in again to train another participant?
 - a. Strongly disagree, somewhat disagree, slightly disagree, slightly agree, somewhat agree, Strongly agree
2. Overall, how would you rate your interactions with the experimenter?
 - a. Very negative, somewhat negative, slightly negative, slightly positive, somewhat positive, very positive
3. On a scale of 1-6 how would you rate your rapport (how well you got along with each other) with the experimenter?
 - a. Very negative, somewhat negative, slightly negative, slightly positive, somewhat positive, very positive
4. I would enjoy working with the experimenter in an actual work setting?
 - a. Strongly disagree, somewhat disagree, slightly disagree, slightly agree, somewhat agree, Strongly agree
5. Overall I enjoyed participating in this study?
 - a. Strongly disagree, somewhat disagree, slightly disagree, slightly agree, somewhat agree, Strongly agree