



# Collaborations: A Combination of Outlook, Vision, and Social Responsibility Among Different Parties—The Key to Success

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**Abstract** Our study examined whether collaboration enhances employees' knowledge and commitments, thus improving the quality of treatment and services they supply and resulting in enhanced employee output and increased efficiency and social effectiveness of the organization. Data were collected from three sources: senior managers, employees, and customers (268 participants involved in 25 collaborative projects). Using a cross-sectional design with survey sampling, we aggregated individual data to the project level and tested whether average scores differed significantly across projects. The results suggest that quality of service had a significant and positive impact on project output. In addition, collaboration had a significant and positive influence on employee trust. Thus, projects conducted with high collaborative standards achieved better outputs: Workers improved their professional knowledge, therefore improving the level of treatment and quality of service.

**Keywords** Collaboration · Health system · Trust

## Introduction

Health funds in Israel face difficulties supplying the level of medical treatment deemed necessary (Reiter et al. 2018), such as availability of services, accessibility to the whole population, professional level of medical treatment, etc. Health funds would like to supply services according to public needs but are restrained by limited resources and bureaucracy, especially in the public sector, resulting in a gap between aspirations and reality. In recent years, another player in the system, nonprofit organizations (NPOs), has become an integral part of the economic and social environment. Specifically, the part NPOs play in the health system in Western countries such as the USA and Holland has increased during recent decades. NPOs mostly supply complementary health services to those supplied by the government and public health organizations, and in some countries, as part of the privatization of health systems (Galnoor et al. 2015).

The present study explored whether collaboration between NPOs and health funds may offer a responsible solution that its outcomes is greater than its parts to reduce gaps in the health system regarding the supply of health services. For instance, critical elements in service delivery occur when some populations in society cannot afford health services and simply give up on treatment (Owen 2009). Avoiding treatment because of financial difficulties or the inadequacy of services in the periphery raises fundamental social and ethical questions that are not unique to Israel. This gap increases when considering that demand for health services is growing as a reflection of ongoing demographic, social, and cultural changes (Johnstone 2010; Laville and Nyssens 2000). Moreover, the context (Johns 2006) and complexity of the health system cause difficulties in enacting the service supply process. Given that

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official organizations, i.e., Ministry of Health and health funds, find it difficult to provide adequate solutions, other responsible bodies need to become involved. Social players such as the private sector, third sector (Baines et al. 2010; Vigoda-Gadot 2004), and even citizens (Heller 2009; Owen 2009) feel responsible and strive to bridge the gaps (Gidron et al. 2007).

This situation demonstrates the asymmetrical nature of power and perceptions in this system. For instance, various stakeholders (Clarkson 1995) perceive service characteristics differently than how service providers see them (in terms of quality, availability, and accessibility of services), calling for an additional intermediary force to be integrated in the system. This force is termed “collaboration between organizations,” emphasizing the fact that public administration is incrementally moving toward a higher level of cooperation and collaboration with various social players to fulfill market demands (Vigoda 2002).

Collaboration between organizations has been widely reviewed in recent decades, with scholars focusing on the advantages and deficiencies of the process as reflected by organizational and employee behaviors (Fawcett et al. 2015; Moore et al. 2018). For example, collaboration influences employee attitudes, behaviors, and knowledge sharing such as overall satisfaction (DeVore and Champion 2011), enhancing the commitment between the involved parties (Ribeiro-Soriano and Urbano 2010) and via that effect, improving service excellence (Manring and Brailsford 2001). Collaboration between public organizations and organizations from the third sector has been less reviewed, neglecting the unique contextual characteristics that influence the process such as place, time, and meaning. This collaboration should have an important effect on two domains: the internal circle, which concerns the organizations and their ability to provide reasonable medical services while restraining budgetary expenses (i.e., organizational efficiency), and the external circle, positively affecting social and welfare agendas of society as a whole (i.e., social effectiveness; Yumasdaleni and Jakimow 2016). Health services are a basic commodity that citizens consume, and collaboration between the state and the third sector is essential and may become a major solution for some challenges in the health system. The aim of this study is to reveal possible outcomes resulting from interaction between NPOs and public health organizations by examining whether collaboration enhances employees’ knowledge and commitments, therefore improving the quality of treatment and services they supply and resulting in enhanced employee output and increased efficiency and social effectiveness of the organizations involved.

## Theory and Hypotheses

Gidron et al. (2007) defined the third sector as “the framework of all nonprofit organizations” (p. 12) that seeks to provide proximity services as part of its goals. The concept of proximity services was suggested to identify new services expanding because of demographic, social, and cultural changes (Laville and Nyssens 2000). Although official bodies have made many efforts to obtain extra funding to address the increasing need for medical care, clearly the demands are greater than the supply. The unique features of NPOs allow them to deliver important social services that neither the government nor the market can match (Arvidson and Lyon 2014; Jang and Feiock 2007). The characteristics and the extent of activities demonstrated by the third sector in Israel indicate its important role in the Israeli economy and the supply of social and welfare services (Schwartz 2017). These activities represent a common perception that the role of the third sector is to complement or sometimes replace the welfare services offered by the state (Gidron et al. 2007; Kramer 2019). The variety of third-sector organizations and the extent of their activities in the civil and financial agenda designate them as a service supplier whose values are appreciated by all.

The ongoing need for additional resources suggests that collaboration between health funds and NPOs, integrated with government intervention, should be established to fill the gaps (Jacobson and Choi 2008; Story et al. 2017). This relationship (collaboration) between two actors or stakeholders can be defined as “the linking or sharing of information, resources, activities, and capabilities by organizations to achieve an outcome that could not be achieved by the organizations separately” (Bryson et al. 2006, p. 44). The relationships between stakeholders were demonstrated in many previous studies related to the third sector (Hyseni et al. 2018; Sinclair and Bolt 2013; Stocker et al. 2018).

The advantages of the collaboration process are many: access to external resources, ability to attract skilled employees, and ability to attract funds (Andrews and Entwistle 2013). Although some researchers have pointed out the difficulties and problems that arise through its application (Gammage 2008; Green 2017; Jacobson and Choi 2008; Lundin 2007; Raymond 2006), overall, it has more advantages than disadvantages. The advantage of professional teams working together, increasing their professional knowledge (Bosnjak et al. 2011; Holmes and Moir 2007), and sharing expanded human assets (Rosell et al. 2010) has been demonstrated by Grill et al. (2012) and Martin-Rios (2014). The latter noted the empowerment of knowledge among all collaborating parties. The ability and capability to act on what has been learned in the

organization result in continuous improvement and innovation (Watkins and Marsick 1997). Therefore, we hypothesized the following:

**Hypothesis 1a:** Collaboration between organizations increases the professional knowledge of employees in the involved organizations.

Studies have shown that ongoing education and training positively affect the overall performance of an organization, such as productivity, turnover rate and organizational commitment (Gberevbie 2010; Lin et al. 2011; Soon and Zainol 2011). More specifically, Oxman et al. (2010) argued that updated knowledge ensures a better health system. Bosnjak et al. (2011) demonstrated that workers empowered with the necessary knowledge and guidance achieved by collaborative processes improved the availability and accessibility of treatment and advanced better patient care. Based on these findings, we hypothesized the following:

**Hypothesis 2:** Expansion of professional knowledge enhances the quality of treatment.

Collaboration between organizations leads to overall satisfaction (DeVore and Champion 2011; Driscoll 1978) and enhances the commitment between the involved parties (Coleman 1996; Raymond 2006; Ribeiro-Soriano and Urbano 2010). According to the theory of reasoned action (Ajzen and Fishbein 1975), attitudes and normative beliefs develop from subjective norms that people hold relative to behavior (Ajzen and Fishbein 1973) and function as the immediate antecedent of behavior (Ajzen and Madden 1985). The idea behind this argument is that the immediate antecedent of any behavior is the intention to perform the behavior (Ajzen and Fishbein 1973). For example, Tjosvold and Tsao (1989) explored the effect of collaborative effort on employee commitment. In our case, collaboration between organizations increases their employees' commitment and effort (Biswas and Bhatnagar 2013). These attitudes, beliefs, and intentions of all parties regarding collaborative success create their commitment to the collaborative project. Therefore, we hypothesized the following:

**Hypothesis 1b:** Collaboration between organizations increases employee commitment.

Arnold et al. (2006) stated that "intention is also influenced by subjective norm, which reflects a person's perception of significant others' evaluations of the behavior, weighted by the extent to which the person wishes to comply with the significant others' wishes" (p. 375). In other words, attitudes influence behavior. This behavior, in the present case, is expressed in enhancing the quality of services (Johns 2006; Kendall and Bodinson 2010). As

Manring and Brailsford (2001) summarized: "the use of collaborative strategic partnerships ... holds great promise as a means to address both service excellence and employee satisfaction" (p. 30). Based on this evidence, the theory of reasoned action, and the theory of planned behavior, we hypothesized that employees will behave in a certain way:

**Hypothesis 3:** Employee commitment enhances the quality of services.

The outcomes of Hypotheses 1–3 are expected to improve the core dimension of the health system, quality of treatment and services, critical to better overall medical treatment (Johnstone 2010; Oxman et al. 2010). Upgrading the level of medical treatment is one of the positive results of a collaboration process (Grill et al. 2012; Peloza and Falkenberg 2009). Learning can improve organizational creativity and thus, organizational performance (Simons et al. 2011; Soon and Zainol 2011). Menguc and Auh (2006) noted that the knowledge and skills of the employees who directly serve the firm's customers are complementary and affect both employee and organizational performance. Therefore, increased clinical medical inputs (quality of treatment) from one side and improved interrelationships with staff members (quality of services) from the other should lead to better performance on the part of employees. This existing evidence led us to hypothesize the following:

**Hypothesis 4:** Greater collaboration between organizations improves quality of *treatment*, resulting in enhancement of employee output.

**Hypothesis 5:** Greater collaboration between organizations improves quality of *services*, resulting in better employee output.

These days, many agencies admit that collaboration between systems will lead to a more cohesive unit, ensuring a steady flow of resources and thereby enhancing the chances of survival (MacDonald 2009; Ribeiro-Soriano and Urbano 2010). For example, Nix et al. (2008) stated: "Organizations collaborate because they want some combination of lower costs, improved product or service quality ... [and] quicker project results. ... Collaboration allows firms to pool ... resources to develop innovative solutions that outperform those developed individually" (p. 21). In addition, when employees produce higher output with less input, they are considered more efficient. The sum of the employees' efficiencies results in higher efficiency for the organization. Improved efficiency in the organization may lead to improvement in achieving social goals. The integration of social goals as part of the organization's goals results in social effectiveness. Social effectiveness

refers to “aspects of effectiveness in social interactions at work” (Ferris et al. 2002, p. 49). At the interorganizational level of collaboration, social effectiveness is an interpersonal and interorganizational exchange that leads to positive outcomes for society. This is specifically relevant for health organizations. Health organizations and the third sector collaborate based on a social platform and organically integrate social matters in their agenda. Maximization of resources from both organizations can therefore address social and ethical issues in society and have a larger impact. This led us to hypothesize the following:

**Hypothesis 6:** Enhancing employee output leads to organizational social effectiveness.

## Methods

The health system in Israel is mainly composed of three central suppliers: four health funds responsible for supplying health services for the entire population; hospitals (private, governmental, and publicly owned) that supply ambulatory or hospitalization services; and 434 NPOs that provide treatment and prevention for both mental and physical health care needs (Ministry of Justice 2018). From 1995 to 2008, governmental funding for health services significantly decreased (Central Bureau of Statistics 2018). For example, the percentage of health expenses relative to the gross domestic product has decreased to 7.4% in 2016. This is much lower than in the Western world—17.2% in the USA, 12.4% in Switzerland, and 21 other countries that are members of the Organization for Economic Cooperation and Development. Whereas the global trend is a relative increase in health expenditures, in Israel, the tendency is the opposite; this creates a vacuum whereby services increasingly need to be financed by private allocations. One of the implications of high private funding is an increase in the level of inequity and lack of availability and accessibility of health services to the population (Davidovitch 2013).

## Procedure of Research

One of the criteria for inclusion in this study was being part of a collaborative project, whether successful or not, involving organizations in the health system. Therefore, several steps were conducted: (a) we contacted the directors of several health organizations; (b) we interviewed the directors concerning possible collaborative projects to include; (c) we recruited other staff members in the organization; (d) the local Helsinki Committee and ethics committee of the faculty of social welfare and health sciences at Haifa University authorized the research; and

(e) data were collected from three sources: (1) senior managers from different sectors (physicians, paraprofessionals, administrative personnel, etc.) who were involved in the collaborative project; (2) employees from different sectors who were involved in the collaborative project; and (3) customers who were served as part of the collaborative project. To measure research constructs, we used validated questionnaires. All the relevant constructs were translated following a translation protocol (Maneesriwongul and Dixon 2004); first, two bilingual individuals translated the constructs from English to Hebrew. Then, two individuals independently back-translated the Hebrew survey version into English. Another individual reviewed and compared the finalized version of the translated survey. All questionnaires were completed without identifying details, thereby ensuring the participants’ anonymity while protecting their privacy, especially concerning medical details (mostly relevant to the customer group).

## Measurements

Cronbach’s alpha for each multi-item measure exceeded .70 in the original studies and exceeded .80 in our study (see Table 2), which indicates adequate reliability. For all items, respondents were asked to indicate agreement based on a 7-point scale where 1 = *strongly disagree* and 7 = *strongly agree*.

### Collaboration

Different collaborative projects were chosen, each evaluated by the manager of the project regarding its level of collaboration. The questionnaire was derived from a combination of previously used and well-established measures as presented by Hall et al. (2012). Hall et al. (2012) examined interorganizational collaboration as an antecedent to contingency planning effectiveness.

### Knowledge Enhancement

We used a short version of the dimensions of the learning organizational questionnaire (Watkins and Marsick 1997).

### Quality of Treatment

We used a short version of the quality level of healthcare service questionnaire developed by Al-hawary et al. (2011).

### Commitment

Allen and Meyer (1990) composed a 51-item questionnaire referring to three components of commitment. We used

effective commitment because it is the most prevalent approach to organizational commitment, in which commitment is considered effective or entails emotional attachment to the organization (in our case, also to the specific project), such that strongly committed individuals identify with, are involved in, and enjoy membership in the organization.

### *Quality of Service*

This measurement was based on the SERVQUAL questionnaire (Parasuraman et al. 1988), which was originally designed to measure customers' rating of service quality. To measure the quality of services from the managers' and customers' point of view, we used Calnan and Sanford's (2004) questionnaire.

### *Employee Output*

This variable was based on the integrative questionnaire developed by Tsui et al. (1997). Given that the specific nature of employees' tasks varies widely with their jobs, organizations and industry, the researchers developed and selected generic items rather than those specific to a job. Six items were developed to measure basic employees' task output. For these items, raters (managers or employees) graded employees' output concerning their performance in the specific project.

### *Organizational Efficiency and Social Effectiveness*

This measure was based on Stank et al.'s (2001) questionnaire that was developed and tested to create a tool for assessing proficiency across integrative and collaborative elements.

### *Control Variables*

Based on prior research, we controlled for individual factors: age, gender, level of education, profession (doctor, nurse, administrative employee, pharmacist, paraprofessional employee, or other), years of tenure in the organization, and job description. As previously mentioned, many previous studies found trust to be an important and meaningful factor in organizational studies, at the individual level of analysis as much as the group and organizational level (Fulmer and Gelfand 2012). Therefore, we examined the correlations between trust (a control variable) and the other variables integrated in the research model. To do so, we used two scales: (a) measuring mutual trust among team colleagues (Mishra and Mishra 1994) and (b) measuring manager–employee trust (Tzafrir and Dolan 2004).

Representatives from all three groups (senior managers, employees, and customers) filled out the questionnaires. Each group received a different version based on relevant variables: senior managers filled out questionnaires concerning the level of collaboration in the specific project, service and treatment quality, employee output, and organizational efficiency and social effectiveness. Employees filled out questionnaires concerning commitment, service and treatment quality, employee output, and knowledge enhancement. Customers filled out questionnaires concerning service and treatment quality and organizational efficiency and social effectiveness. Some of the examined variables were measured across groups, because they were relevant to participants from multiple groups (e.g., all three groups answered questions about quality of treatment), enabling cross-checking of the data. The level of analysis was the organizational level, based on data collected from individuals participating in organizational collaborative projects.

### **Sample**

A snowball sampling technique was utilized due to the sensitivity of the phenomenon (Lee 1995) and possible difficulties in finding adequate respondents. To execute the snowballing method (Denscombe 2014), we followed Gomm's (2008) approach and contacted a selective number of project managers as key informants, requesting without disclosing in full the study aims that they direct us to relevant contacts who may have an interest in participating in the study. Finally, to strengthen the ability to interpret the findings, our sample consisted of 268 participants from three groups: 74 senior managers, 110 employees, and 84 customers involved in 25 collaborative projects. The response rate was 60%. That exceeds the typical response rate for surveys used in organizational research (Baruch and Holtom 2008).

### **Reliability**

To avoid self-report bias due to participants filling out questionnaires, several sources for data gathering were used. We followed Donaldson and Grant-Vallone's (2002) recommendation to use a minimum of two data sources to ensure the validity of self-report and protect against monomethod bias in business psychology research. In addition, reverse scoring of items, variation in wording of items, and guaranteeing anonymity to respondents should help control for common method bias (Bammens and Collewaert 2014).

## Aggregation

To statistically justify aggregation of the variables tested from individual ratings to the project level, we calculated intraclass correlation ( $ICC_1$  and  $ICC_2$ ) and tested whether average scores differed significantly across projects.  $ICC_1$  can be defined as the amount of variance in individual scores attributable to the project (Klein and Kozlowski 2000).  $ICC_2$  estimates the reliability of group means. ICCs are based on variance partitioning and therefore are subject to essentially the same assumptions as analysis of variance. These include homogeneity of variance (variance in units is statistically the same), normality (population scores are normally distributed), statistical independence (observations are independent) and measures of equal psychological intervals (Castro 2002). In addition, we calculated Rwg(J) values of within-branch agreement. Rwg represents the consensus among raters in a single unit for a single variable, or the interchangeability of respondents' rating. Values above .70 indicate strong to very strong agreement (Castro 2002).

As shown in Table 1, we obtained fair support for aggregation. Although  $ICC_1$  should be greater than 0, in our case, almost all variables were considered 0 (there is no meaning for negative results; they are considered 0).  $ICC_2$  and Rwg both had good levels and suggest sufficient within-project agreement to justify aggregation to the project level. For all variable scores, the variance components attributable to the project were statistically significant in an  $F$  test. As stated by Klein and Kozlowski (2000), "in samples composed of smaller groups (i.e., groups of fewer than 25 individuals per group), however,  $ICC_1$  provides much smaller estimates of between-unit variability. Researchers using eta-squared or  $ICC_1$  to justify aggregation usually conclude that aggregation is justified when the  $F$ -test for these values is significant" (p. 225). We therefore concluded that reliability comparisons between mean values for projects were possible, even if  $ICC_1$  values were rather small (Klein and Kozlowski 2000). Indeed, ICCs on the lower side are expected in a study with a small sample.

**Table 1** Aggregation characteristics

Variable	$ICC_1$	$F$	$ICC_2$	rWG $M$	rWG Min	rWG Max
Collaboration <sup>a</sup>	.029	7.57*	.802	.914	.484	.995
Quality of service <sup>a</sup>	-.425	12.15*	.909	.964	.710	1.00
Quality of treatment <sup>a</sup>	-.436	7.89*	.862	.981	.959	.995
Output <sup>a</sup>	-.278	22.81*	.950	.927	.256	.996
Trust <sup>a</sup>	-.325	37.68*	.968	.980	.929	.997
OE and SE <sup>a</sup>	-.347	11.45*	.897	.936	.704	.995
Commitment <sup>b</sup>	-.232	5.36*	.765	.808	.348	.990
Quality of service <sup>b</sup>	-.202	9.54*	.882	.973	.933	.994
Quality of treatment <sup>b</sup>	-.160	10.25*	.889	.963	.703	.997
Trust <sup>b</sup>	-.017	27.40*	.963	.981	.683	.998
Output <sup>b</sup>	-.191	11.13*	.897	.972	.869	.995
Knowledge <sup>b</sup>	-.173	11.10*	.901	.912	.629	.998
Quality of service <sup>c</sup>	-.297	16.66*	.938	.983	.898	.999
Quality of treatment <sup>c</sup>	-.200	15.08*	.930	.923	.113	.999
OE and SE <sup>c</sup>	-.309	12.14*	.911	.956	.885	.998
Trust <sup>c</sup>	-.310	13.10*	.920	.975	.878	.998

The range of the  $ICC_1$  in the analysis of variance model is from  $-1$  to  $+1$  (Bliese 2000). The formula we used to calculate  $ICC_1$  was:  $ICC_1 = (MS_b - MS_w) / (MS_b + [N_g - 1] MS_w)$ , wherein  $MS_b$  is the between-group mean square,  $MS_w$  is the within-group mean square, and  $N_g$  is the group size (Castro 2002; Bliese 2000). In our study, although  $MS_w$  was low, it was still higher than the  $MS_b$ . This resulted in negative totals for  $ICC_1$ . As mentioned by Klein and Kozlowski (2000) and Bliese (2000), because the sample was small, the estimation of between-unit variability is much smaller. This affected the analysis of the data and as accepted in the literature (Bliese 2000), the range of  $ICC_1$  in the analysis of variance model is between  $-1$  and  $+1$ . OE and SE = organizational efficiency and social effectiveness

<sup>a</sup>Manager

<sup>b</sup>Employee

<sup>c</sup>Client

\* $p < .01$

## Results

The results (see Table 2) indicate that collaboration was significantly correlated with quality of treatment ( $r = .365$ ,  $p < .05$ ), trust ( $r = .614$ ,  $p < .01$ ), output ( $r = .447$ ,  $p < .05$ ), and knowledge ( $r = .484$ ,  $p < .01$ ) as measured by employees, and organizational efficiency and social effectiveness ( $r = .861$ ,  $p < .01$ ) as measured by managers. In addition, significant and positive correlations were found between organizational efficiency and social effectiveness and quality of treatment ( $r = .519$ ,  $p < .01$ ) as measured by clients, and organizational efficiency and social effectiveness and output, the first as measured by clients and the latter by managers ( $r = .428$ ,  $p < .05$ ). Furthermore, the results show that quality of service as measured by managers was related to quality of service as measured by employees ( $r = .511$ ,  $p < .01$ ) and to output as measured by employees ( $r = .675$ ,  $p < .01$ ). Quality of service and output, both as measured by employees, were significantly correlated ( $r = .687$ ,  $p < .01$ ). Different relationships emerged between the various variables, which gives a better understanding regarding their possible fit. Some of the correlations presented in Table 1 are results of the analysis of variables measured by different sources (e.g., managers and employees or employees and clients), which strengthens their relationships. Other correlations between variables indicate the variables are extremely congruent (correlation is very high). This could be a sign of multicollinearity (Garson 2012). According to the data, some variables appeared to measure the same construct, considering the high correlations between them ( $r_s > .80$ ). A tolerance value of 4 among independent variables with  $r > .80$  (manager-reported quality of service; manager-reported quality of treatment; client-reported quality of service; and client-reported organizational efficiency and social effectiveness) were less than .20, and variance inflation factor values exceeded 4. These results indicate multicollinearity (Garson 2012). Therefore, to prevent an unstable model, correlations above .80 were tested as one or disregarded. Also, we determined whether research variables correlated with control variables (Table 2).

## Measurement Model

We proceeded to assess the fit of the measurement model in AMOS via the seven variables: collaboration (measured by managers), trust (measured by employees), quality of service (measured by managers), quality of service (measured by employees), trust (measured by clients), output (measured by employees), and organizational efficiency and social effectiveness (measured by clients). The chi-square of the seven-variable model was nonsignificant

( $\chi^2 = 13.592$ ,  $df = 13$ ,  $p = .403$ ), as were other fit index values (CFI = .989, IFI = .991, TLI = .976, and RMSEA = .044), representing a good fit (Arbuckle and Wothke 2001). The unstandardized path coefficients are shown in Fig. 1.

## Tests of Hypotheses

Hypotheses 1–3 predicted that employees of organizations that exhibited a high level of collaboration in the projects in which they participate will expand their professional knowledge and therefore enhance the quality of treatment. They will also present a higher level of commitment to their organization and therefore enhance their quality of service to their clients. Although we found significant correlations between collaboration and knowledge ( $r = .484$ ,  $p < .01$ ) and quality of treatment ( $r = .365$ ,  $p < .05$ ), no significant correlations were found concerning commitment and quality of service ( $r = .189$ , n.s.;  $r = .236$ , n.s., respectively).

Hypotheses 4 and 5 concerned the relationship between the quality of service and treatment as pertaining to the total output of the collaborative project. Both correlations were significant; projects that demonstrated higher levels of treatment quality exceeded the level of total output of the project ( $r = .859$ ,  $p < .01$ ). Those demonstrating higher service quality also exceeded the level of total output ( $r = .687$ ,  $p < .01$ ). Last, concerning the dependent variable reflected in Hypothesis 6, organizational efficiency and social effectiveness was significantly related to collaboration ( $r = .861$ ,  $p < .01$ ), quality of service ( $r = .369$ ,  $p < .05$ ), quality of treatment ( $r = .461$ ,  $p < .05$ ), and output ( $r = .691$ ,  $p < .01$ ).

In addition, we tested the hypotheses regarding the control variable of trust and found a high correlation between the latter and various variables (i.e., collaboration:  $r = .814$ ,  $p < .01$ ; output:  $r = .762$ ,  $p < .01$ ; and quality of service:  $r = .661$ ,  $p < .01$ ). In general, the hypotheses positing a positive correlation between collaboration and organizational efficiency and social effectiveness via several other independent variables were confirmed. Overall, this set of hypotheses was moderately well supported.

## Discussion

A collaboration model between organizations, especially organizations from the third sector, is a creative and successful administrative tool for organizations to upgrade their performance. In broad terms, organizations that tend to collaborate should consider individual and organizational levels. At the individual level, managers must pay attention to building and developing a trust climate based

**Table 2** Descriptive statistics and correlations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Collaboration <sup>a</sup>	5.40	.85	.87															
2. Quality of service <sup>a</sup>	6.20	.51	.550**	.92														
3. Quality of treatment <sup>a</sup>	6.13	.43	.567**	.839**	.87													
4. Output <sup>a</sup>	5.73	.74	.764**	.626**	.632**	.96												
5. Trust <sup>a</sup>	5.81	.68	.814**	.554**	.436*	.762**	.97											
6. OE and SE <sup>a</sup>	5.60	.65	.861**	.369**	.461*	.691**	.749**	.91										
7. Commitment <sup>b</sup>	5.26	.59	.189	.385*	.289	.122	.156	.116	.81									
8. Quality of service <sup>b</sup>	6.05	.56	.365*	.695**	.645**	.322	.266	.189	.501**	.90								
9. Quality of treatment <sup>b</sup>	5.54	1.20	.236	.511**	.401*	.221	.168	.073	.506**	.808**	.82							
10. Trust <sup>b</sup>	5.26	1.07	.614**	.596**	.502**	.484**	.485**	.345*	.272	.502**	.340*	.97						
11. Output <sup>b</sup>	5.82	.49	.447*	.675**	.625**	.514**	.335	.269	.589**	.859**	.687**	.576**	.91					
12. Knowledge <sup>b</sup>	5.46	.63	.484**	.442*	.297	.374*	.327	.308	.446*	.524**	.363*	.700**	.615**	.91				
13. Quality of service <sup>c</sup>	6.56	.60	.036	.136	.276	.439*	.026	-.073	-.042	-.017	-.110	.131	.130	.046	.94			
14. Quality of treatment <sup>c</sup>	6.43	.65	.022	.221	.329	.224	.222	.038	-.081	.081	-.152	.135	.079	-.079	.689**	.93		
15. OE and SE <sup>c</sup>	6.37	.69	.050	.119	.327	.428*	-.026	.055	.019	-.019	-.167	.083	.130	.082	.899**	.519**	.92	
16. Trust <sup>c</sup>	6.54	.49	.236	.501**	.588**	.610**	.246	.158	.106	.106	.261	.362*	.584**	.350	.711**	.554**	.661**	.92

25 projects featuring managers, employees, and customers. Coefficient alphas on diagonal. OE and SE = organizational efficiency and social effectiveness

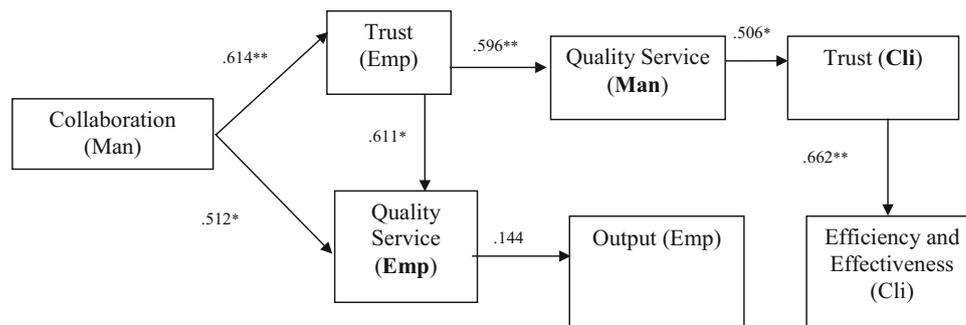
<sup>a</sup>Manager

<sup>b</sup>Employee

<sup>c</sup>Client

\* $p < .05$ ; \*\* $p < .01$

**Fig. 1** Structural model results.  
cli client, emp employee, man  
manager



<sup>a</sup> cli = client; emp = employee; man = manager.

\* $p < .01$ . \*\* $p < .001$ .

on reliability and shared goals (Tzafir and Dolan 2004). At the organizational level, the clearer the objectives and actions of the collaboration, the higher the chances that the collaboration will succeed (Dovey 2009) and vice versa; without a shared mission, vision, values, and trusting behavior, the collaboration is less likely to flourish.

This study examined different parameters entwined in the collaborative process and found that collaboration highly correlates with knowledge—the ability and capability to act on what has been learned in the organization—resulting in continuous improvement and innovation. This means the higher the level of collaboration between the organizations participating in the project, the higher the employees' knowledge and professional output. This is in line with Grill et al.'s (2012) findings of a strong link between collaborating parties and the level of professional knowledge employees gain from this collaboration. The results of this study also support the idea that expansion of professional knowledge enhances the quality of treatment and that the amplification of employee commitment positively affects the quality of services. These findings may be explained by the capacity-building program (Bryan and Brown 2015), referring to the inherent improvement in human capital via the knowledge, skills, and abilities of employees. Building and developing stakeholders' abilities through the collaboration process may improve individual and organizational outcomes (Kislov et al. 2014). Surprisingly, no correlation was found between the level of collaboration and commitment. One possible explanation is that when participants encountered the commitment variable in the questionnaires, they thought about it in a more general context, not specifically regarding the collaborative project. We found good support for the influence of treatment and service quality on employee output. Interestingly and contrary to our expectations, we found no support for the correlation between employee output and organizational efficiency and social effectiveness. In retrospect, it is possibly due to measuring output on an individual level, because sometimes the effect of a variable at the individual

level may disappear at the organizational level (Chen et al. 2005).

One explanation for the partial results is the small sample of projects ( $n = 25$ ) included in the research (Hox and Maas 2001) and the small sample of participating organizations (O'Sullivan 1999). Another limitation that helps to explain this finding is the fact that there is no published list of collaborative projects in the health system from which we could sample. Projects were chosen through personal connections with a snowball sampling technique (Biernacki and Waldorf 1981); therefore, we could not reach a large enough sample and there may have been bias in the projects chosen. Yet this heterogeneity of projects lessens researcher bias and increases generalizability. In addition, the observed projects differed. Some projects were local initiatives chosen by the organizational directors as part of the organization's working plans, usually limited by timelines, whereas others were ongoing collaborative processes operating in the same format for several years.

Also and surprisingly, we found that although we prospectively considered trust as a control variable, it seems that its role in the collaborative model is much more essential. At the micro-level, trust has been linked to outcomes such as efforts and performance, collaboration and teamwork, leadership effectiveness, and human resources management (Bammens and Collewaert 2014; Dynes et al. 2013; Fulmer and Gelfand 2012; Stern and Coleman 2015). These characteristics may be considered in the collaborative model of health organizations. On the macro-level, trust has been credited as a driving force in entrepreneurship, strategic alliances, mergers and acquisitions, and even national-level health economics (Fulmer and Gelfand 2012). Hence, also on the organizational level, studies have explored trust. In our model, trust had a strong and significant influence on the quality of service in the collaborative project, and regarding the organizational level, we found a strong correlation between trust and organizational effectiveness. This is in line with the fact that trust helps actors collaborate and increase their obligations to achieve shared goals (Jiang and Liu 2015; Tzafir 2005). Also,

Holtgrave et al. (2019) found that when facing conflict, a high level of trust should encourage the top manager to cooperatively approach possible conflicts. Furthermore, referring to a higher level, findings show that trust also influences social effectiveness. In our model, as in the literature, we found trust to be an important variable to consider at the individual, organizational, and societal levels (Tzafrir et al. 2015).

## Limitations

The study has several limitations that need to be noted. First, the fact that clients were self-selected by the project managers may have affected the results. Nevertheless, because the results do not show very high correlation between various constructs from different stakeholders, we can assume, at least partially, that clients were chosen randomly by the project manager. Also, full anonymity was assured while gathering data from all participants, enabling the clients (and other stakeholders answering questionnaires) to answer honestly without bias. It is important to note that collecting multiple questionnaires from different sources provides several outlooks on a certain process, thereby reducing the problematic issue of self-report bias (Donaldson and Grant-Vallone 2002). Also, the SERVQUAL instrument has been criticized for being focused on the functional dimension of service (service delivery process) while ignoring its technical dimension (outcomes of the service process; Kang and James 2004). Nevertheless, it has been tested in many service studies, demonstrating high reliability and reinforcement.

Finally, this study is arguably relevant to the state of Israel solely and the findings may be parochial because all collaborating projects referred specifically to the health system in Israel. Yet the Israeli environment provides researchers and practitioners with a convenient laboratory for studying and examining advanced workplace settings because it is a “Maduradam” (microcosm) of developed countries in Western Europe and North America (Harel and Tzafrir 1999).

## Research Contributions

This research suggesting a possible partial solution for the gaps in services in the health system has important conceptual, theoretical, methodological, and practical implications. From a conceptual perspective, understanding the forces and relationships active among all concerned in the health system—regulators, health organizations, NPOs, and clients—may enable the system to integrate and achieve the best results it can by engaging all elements in a

synergistic manner. The theoretical contribution is the presentation of a model that may explain how better organizational performance may be achieved via collaboration between organizations and how these organizational achievements result in organizational efficiency and social effectiveness. Using contextual theory (Johns 2006) as a point of departure for future research avenues, this model can be used to explore other omnibus and discrete context such as industries, sectors, professions, etc. The methodological contributions of this research are twofold: (a) using different levels of analysis, i.e., the project level and organizational level, and (b) analyzing the findings through descriptive statistics, correlations, and structural equation modeling.

Contributions to the practical perspective are essential. This research shows that collaboration between organizations can be efficient and effective for the organizations, the health system, and society. As previously mentioned, the new generation of public administrators needs a different spirit and will have to find creative ways to deal with new public management. This research indicates the possibilities in the current social health service systems that may help these systems address the lack of financial resources, unprofessional personnel, long waiting lists for services, etc., in the face of rising public demand for health services.

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