TRUST IN RISK COMMUNICATION

IN ORGANIZATIONS IN 5 COUNTRIES OF NORTH AND SOUTH AMERICA

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Abstract

This paper reports on the development of the Trust in Risk Communication scale (TRC). The TRC measures one's beliefs in government, management and union trustworthiness. The TRC is found to be significantly associated to (1) perception of risk from industrial hazards (2) the Mayer, Davis & Schooner trust related factors, (3) dimensions defined by the theory of reasoned action, (4) job satisfaction, and (5) hope. There was no significant relationship between Schwartz values and the TRC. The TRC is shown to have appropriate psychometric characteristics across cultural groups. Data from workers (N = 506) in Argentina, Brazil, Canada, Mexico, and the United States suggest that the TRC predicts workers' willingness to accept risk at the workplace. The TRC can assist researchers and practitioners by providing them with an overall assessment of workers' trust in risk management programs.

Key words: Trust, risk communication, risk perception, scale validation, attitudes, organizational safety, Canada, United States, Mexico, Brazil, Argentina

Introduction

A modern business exposes workers to many risks in the workplace. Managing safe and healthy work environments is one of the most important challenges facing organizations. Daily, millions enter work environments that threaten their health and safety since biological, chemical, physical, radiological and other hazards pose dangers to many workers in a variety of industries (McLain, 1995).

Communication of the risks inherent in organizations is an essential tool in the creation of a culture of safety for workers' protection. There are many factors that influence the risk communication process: message features, person characteristics, social influences and context factors (Kasperson et al., 1988). Despite receiving information about risks, people in the workplace engage in large personal risks. For example, despite knowledge about health hazards, workers will choose to disregard them if there is a socio-economic incentive to do so. Vaughan's studies (Vaughan, 1993; Vaughan and Nordenstam, 1991) of risk perception of agricultural workers, mainly Mexican, in the United States showed that people weight the positive and the negative consequences of dangers (e.g., use of pesticides) and may choose to ignore them if removing the hazard means losing employment, despite having extensive knowledge of the harm of pesticide exposure to their health. Of particular relevance to this paper is the issue of trust in the communicator.

A number of studies have shown that, for complex technologies, trust is inversely related to perceived risk (Eiser, Miles, and Frewer, 2002; Löfstedt, 2003). Hence, workers who encounter complex hazards and technologies will perform their jobs in a more relaxed manner and will be more at ease if they trust that management is not exposing them to unnecessary and unknown risks. Benchmarks are often used in risk comparison to try to persuade people that hazards are at an acceptable level. Varying levels of trust in the source rather than varying

levels of knowledge better explain attitudes to such efforts. People with negative attitudes to government or industry, whom management tries to reassure through benchmarks, will tend to doubt that those regulatory standards offer a credible risk comparison (Johnson and Chess, 2003). Therefore, trust and credibility are important themes in the risk communication process.

The decision to trust comes as a result of a perception that others in the organization also believe in the trustworthiness of management; the person then believes that he/she is not the only “sucker”. Thus, not surprisingly, research on trust (Kramer and Tyler, 1996) has shown that the strength of the social network is related to trust. In the workplace, cohesion of the group is regarded as a source of job satisfaction. People’s readiness to trust will be directly linked to the clarity and strength of their psychological contract toward the organization.

The term psychological contract is used to refer to employees perceived obligations toward the company regarding what they believe that they ought to give to and receive from the organization, beliefs regarding reciprocal obligations (Robinson, Kraatz, and Rousseau, 1994; Robinson and Rousseau, 1994; Rousseau, 2001). In the present study, because it is difficult to assess the total psychological contract per se, we focus on elements that are encompassed in the psychological contract such as values, job satisfaction and attitudes.

In addition, the credibility of the source of information is a cause of preoccupation for risk communicators (Johnson and Chess, 2003; McComas and Trumbo, 2001). This concern is even more worrisome when we are assessing the workplace. As noted above, in the workplace people are exposed to hazards and they are often very critical and concerned about the way hazards are managed. Poor risk management may lead to accidents and diseases, which are a

cause of concern not only for workers, but also for management, families and society as a whole.

Risks in the workplace are managed by three instances: government, management and the unions. Therefore, knowing if workers believe the information they receive from these three instances is vital. The issue of trust and credibility becomes even more complicated if we want to deliver information to different cultural groups since the process of risk communication is clearly an integral part of a nation's orientation toward health and safety (Löfstedt and Vogel, 2001).

This issue is faced daily by many multinational companies who export their safety management practices to people from different countries. Thus, management's recognizing the macro level factors (trust in government, management and unions) that impact on the extent to which their employees trust them can lead to better adaptation of their safety training and risk communication practices across cultures.

This paper reports on the development of the trust in risk communication scale (TRC) that measures the respondent's beliefs in government, management and union trustworthiness. A theory of worker safety compliance is proposed in which trustworthiness in management, government and union is hypothesized to predict perception of risk from industrial hazards. Risk perception is assessed with (a) perceptions of risk from job hazards, and (b) perceptions of risk from job related injuries and diseases. Data from workers in Argentina, Brazil, Canada, Mexico, and the United States are analyzed.

Background

Trust. The importance of trust has long been recognized. However, there is little agreement among social scientists on how to conceptualize and measure the construct of trust. Some researchers assess the components of trust while others describe it as a global sentiment/feeling. Due to the lack of theory, it is difficult to compare the results of different studies. We favor a theoretical approach for which the two concepts of trust and confidence are crucial. We define trust, in brief, as the willingness to make one vulnerable to another based on a feeling that the trustee possesses similar intentions or values to ours (Mayer, Davis, and Schoorman, 1995; Siegrist, Earle, and Gutscher 2003). Confidence is a belief that certain events will occur as expected. This belief is usually based on previous experience, evidence or reputation of the trustee. Trust and confidence differ only in that trusting assumes that there is a perceived risk involved while in the latter case there is no such perception of risk (Mayer et al., 1995; Siegrist et al., 2003).

According to our theory, general trust will lead to a greater confidence among workers that work environment hazards are handled properly. The decision to trust will depend both on individual differences and on judgments based on people's previous life experiences in a given societal and organizational environment. Trust also leads to other positive outcomes such as a greater job satisfaction and safer behavior (Goris, Vaught, and Pettit, 2003).

Importance and challenges of building trust across cultural groups. As noted above, hazard exposure at the workplace is regulated by three instances: government, management and unions. People at their workplace learn about the effects of hazards in the workplace from different sources. Some of the sources from which people learn about the hazards may influence the effectiveness of the safety training interventions. Some of these factors are: (a) previous

information or knowledge concerning the hazards, (b) educational level (i.e., people with more education may know more about the hazards and therefore perceive less or more risk, depending on the facts of the case), (c) previous training, (d) length of exposure as assessed by tenure, and (e) awareness of exposure (Hoyos, 1995; Kouabenan, 1998).

In addition, the previous factors have been shown to vary significantly by ethnic, cultural, and national group. Moreover, there are cross-cultural differences in risk perception (Janssens, Brett, and Smith, 1995; Kouabenan, 1998; Palmer, Carlstrom, and Woodward, 2001; Perez-Floriano, 2001; Vaughan, 1993¸ Vaughan and Nordenstam, 1991). Thus, establishing what is universal, i.e. *etic,* and what is specific, i.e. *emic* (Berry, 1998) is an important task for risk communicators who want to address people from diverse cultural groups.

Trust and risk. Trust is fragile and can be easily broken. In addition, trust only arises when there is a risk involved (Kramer and Tyler, 1996). People are likely to trust institutions and individuals when they believe that the risks are handled properly. Whether perceived risk is an antecedent or consequence of trust is a matter for research to decide. According to our theory, supported by previous studies (Eiser et al., 2002; Löfstedt, 2003; Slovic, 1993), trust will lead to a greater confidence among workers that the hazards are handled properly.

Risk perception. Trusting implies putting oneself in a vulnerable position, that is, at risk. Thus, to elicit people's support of safety prescriptions, risk communicators have to be perceived as trustworthy and address specific risks to the individual.

Risk communication. Risk communication is a social process through which people become informed about hazards, are influenced towards behavioral change and can participate in deci-

sion-making about risk issues. Normally, risk communication increases risk awareness and preparedness. However, at times the goal can be the reduction of concern about risks.

Attitudes and trust. The most well known approach to assess the relationship between attitudes and behavior is the theory of reasoned action, which is based on the premise that behavioral intentions lead to behavioral action (Ajzen, 1996; Ajzen and Fishbein, 1977, 1980). The theory of reasoned action states that behavior is best predicted by three components: behavioral intentions, attitudes, and perceived social norms. Trust is related to attitudes and behavioral intentions (Salabarria-Pena, Lee, Montgomery, Hopp, and Muralles, 2003)**.**

Job satisfaction. In organizational studies, worker's job satisfaction is considered as a signal of organizational health. Spector (1997 p.2) considers that job satisfaction "can be considered as a global feeling about the job or as a related constellation of attitudes about various aspects or facets of the job." Job satisfaction is positively related to job design and small job constraints and negatively related to turnover and absenteeism (Spector, 1997). One can easily surmise that a satisfied worker is one who trusts that the hazards at his/her workplace are being properly handled, disposed of, and communicated in a timely manner.

Values. Schwartz defines values as "desirable transsituational goals, varying in importance that serves as guiding principles in people's lives (Schwartz, 1992; Schwartz et al., 2001)". Values are divided into ten individual types (e.g., self-direction, power, and universalism). These value types have been shown to vary by national group. In addition, values have been shown to predict the extent to which people perceive risk from environmental and health hazards (Schwartz, Sagiv, and Boehnke, 2000) and the extent to which people perceive risk from

job hazards (Perez-Floriano, 2001). Thus, assessing if trust is related to cultural values was an important part of the present validation process.

Development of the TRC Scale

The TRC assesses blue-collar workers' perception of risk from hazard exposure at the workplace. A review of existing scales was performed to select the items for the TRC. The final version of the trust in risk communication scale is composed of 8 items (see Appendix A). The items are rated on a 5-point scale (1 = *very little trust*, 2 = *little trust*, 3 = *I don't know*, 4 = *I trust them*, 5= *A lot of trust*). The North American sample filled out the TRC on a 7-point rating scale. Thus, we are only comparing by regional group (North versus South) since different scales of measurement were used. All items were translated and back-translated following the method recommended by Brislin (Brislin, 1980).

Methodology to Test the TRC Scale

The TRC was tested in two separate studies.

Method used for study one – data collection

Participants: Electric utility line workers of 3 different electric utility domestic companies from Canada (n = 72), Mexico (n = 104) and the United States (n = 130) completed several scales on company time during the summer of 1999, as part of safety training. The response rate for Americans was 97%; Canadians' *response* rate was 82%; and Mexicans' 91%.

Method used for study two – data collection

The blue-collar workers and administrative employees of a large multinational organization in Brazil (n =182) and Argentina (n = 48) completed the surveys on company time. After attending a weekly safety meeting, all the attendees had agreed to participate in the study. This or-

ganization, which will remain anonymous, is a major out-sourcing business for many major multinational organizations.

Results

Factor structure and relationship of trust in management and trust in government components

Descriptive and univariate statistics. The Trust in Risk Communication Scale was administered to workers from the metal-mechanic industry. In the first part of the study line workers from Canada, Mexico, and the United States filled out the scale on a 7-point Likert-type of scale. Tables 1 and 2 give the means and standard deviations for each of the trust and risk subscales for the North and South American group respectively. Canadians reported the highest trust both in management and in government. There were no significant mean differences between Argentineans and Brazilians; both groups expressed a low level of trust in government and high trust in management, a noteworthy difference (see Table 2).

Insert Tables 1 and 2 about here

Validity. The TRC's validity was tested as follows. First, factor analyses were performed in each national group resulting in the same factor structure and yielding similar factor loadings and reliabilities. Second, in an attempt to derive reliable factors across countries, item analyses resulted in the modification of 3 items and the deletion of one (see Tables 3 and 4). The union item loaded on the "trust in government factor"; therefore, it was included in the scoring of this factor for our analyses. Overall the TRC showed excellent reliabilities (see Tables 3 and 4).

Insert Table 3 about here

In the second phase of data collection, we performed item analyses that resulted in the addition of 2 new items and the deletion of 1 of the original items. Overall, the total variance accounted for, by the two resulting factors, was for Americans 75.6%, Canadians 71.4%, Mexicans 69.7%, Argentineans 79.9%, and Brazilians 62.2%.

The two components, trust in management and trust in government, were significantly correlated in all of the countries except for Canada (i.e., Argentina r = .73**, Brazil r = .43**, Mexico r = .34**, United States r = .40**, and Canada, r = .04). These relationships support the assumption that the trust in management and trust in government components are related but distinct components (see Table 4).

Insert Table 4 about here

Convergent validity

One crucial step in the concurrent validation process involves correlating responses on a new scale with responses to other existent scales that tap similar processes (Nunnally and Bernstein, 1994). We therefore administered several scales that should relate to trust as defined here.

Mayer, Schoorman & Davis trust model (Mayer et al., 1995). These authors define trust as the willingness of a person to be vulnerable to the actions of another person based on the expectation that the trustee will perform a particular action important to them, irrespective of the trustee's ability to monitor or control the person's behavior. Mayer et al. define trust as "*the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustee, regardless of the ability to monitor or control that other party"* (Mayer et al., 1995, p.712). They propose that trust in the organizations is a function of the person's general propensity to

trust, and the extent to which he or she believes that the trustee possesses suitable abilities, moral integrity, and benevolence.

Regarding the North American group, it is worth noting here that the means seemed to be similar across subscales and countries, except for the worry about injury and disease subscale, which was higher for Mexicans than for Americans and Canadians (See Table 1). In retrospect, this finding is not surprising. The hazards and job conditions for Mexican workers were much harsher than the conditions of Canadian and American line workers.

People from democratic societies such as Canada and the United States are more likely to demand information concerning the hazards that surround them (Slovic, 1986, 1993, 1999). Table 5 shows the means, standard deviations and correlations of the TRC and the 5 subscales of Mayer et al. trust factors for Argentineans and Brazilians. The correlations for the Trust in Management component were all statistically significant but of small to medium size (Cohen, 1992), an indication that the constructs share some, but not all, of the variance. The Cronbach alpha reliabilities were appropriate for four of the five subscales (i.e., reliabilities went from a low .57 to a high of .94). The trust factor had reliabilities of .28 for Argentina and .05 for Brazil, indicating that this subscale is inappropriate for cross-cultural research. Next, from Table 5 we can see that the Trust in Government component is not related to Mayer et al. factors of benevolence, integrity, and propensity for the Brazilian group. However, the same table shows that for the Argentinean group the associations of the Trust in Government component and Mayer et al. factors were statistically significant but of a smaller size than for the Trust in Management component. This indicates that the respondents did, as we hypothesized, distinguish between interpersonal and organizational trust, as assessed by the Mayer et al. scale and organizational trust as assessed by the TRC. This is further confirmed by observing the low level of trust with which Argentineans rated trust in government factor in Table 2. Brazilians

also gave a low rating to trust in government (*M* = 1.88, *SD*= 1.14, *M* =1.98, *SD* = .94 respectively). This contrasts sharply with the high ratings that the respondents gave to the trust in management factor (*M* = 3.53, *SD* = .90 for Argentineans, and *M* = 3.58, *SD* = .66 for Argentina and Brazilians). The low levels of trust in government could be considered endemic to most of Latin America. The corruption index published by Transparency International (2004) consistently indicates that most of these countries score high on corruption. In addition, at the time when data were collected in these countries (November to December 2002), Argentina was experiencing the worst economic crisis in its history and this had an effect on the interdependent economies of all South American countries.

Insert Table 5 about here

Participants from North America completed the Schwartz Value Survey (SVS) and participants from Argentina and Brazil completed the Schwartz Portrait Value Questionnaire (Schwartz et al., 2001), a parallel version of the SVS. Correlation analyses indicated that values were not significantly related to any of the trust in risk communication components in any of the 5 countries. Tables 6 and 7 present the means and standard deviations of each of the values for the North and South American groups respectively, with a higher mean indicating that people in that national group attach a greater importance to some values than others. It is worth noting here that when assessing the values of a cultural group, the rank order that members of the cultural group assign to the values is the factor that one should first assess. From Tables 6 and 7 we can see that the values that are most important for the respondents in these national cultures give to values is sharply different. According to Schwartz and Bardi (2000) there is a broad pan-cultural agreement that a hierarchical order of values exists in each nation. Thus, the hierarchy of a group should give us similar results regardless of using the SVS

or the PVQ to assess cultural values. From Table 6 we can see that the two most important values for Americans was the value of self-direction (*M* = 7, *SD* = .89) and hedonism (*M* = 7, *S*D = 1.44). The value of self-direction is highly correlated with Hofstede's cultural dimension of individualism versus collectivism (Schwartz, 1992). Individualism describes societies in which the ties between individuals are loose, in which the person defines herself as an individual separated from her group, and she is expected to only look after herself and her immediate family (Hofstede, 1980). In contrast, collectivism stands for a society with close ties in which the individual defines herself by her group membership, a group that protects her and in return expects unquestioning loyalty. Thus, Schwartz' value of conformity to group rules is related to Hofstede's collectivism. From Table 6 we can see that the Mexican group scored significantly higher on conformity than the American and Canadian participants did. This finding is consistent with Hofstede's findings about classification of cultural clusters (Hofstede, 1980). Next, the results from the South American group indicate that for Brazilians the most important value was stimulation (*M* = 3.40, *SD* = .95), and for Argentineans the most important value was security (*M* = 4.35, *SD* = .94).

Insert Table 6 and 7 about here

Job satisfaction. Persons with a higher trust should experience a greater job satisfaction across domains. Argentineans and Brazilians completed Spector's Job Satisfaction Survey (Spector, 1997). The results confirmed our hypothesis (see Table 5); the relationship between trust in management and job satisfaction was *r* = .47**, and *r* = .30** for trust in government and job satisfaction for the South American group.

Attitudes and trust. People who trust the sources of information about hazard effects have more positive attitudes about hazard management and a stronger behavioral intention to comply with risk management procedures (Salabarria-Pena et al., 2003). In the present study, participants from Mexico and the United States completed a scale assessing behavioral intention, perceived social norms, and attitudes towards the use of fire-resistant garments after a safety training simulation (Perez-Floriano, 2001). Table 8 gives correlations between trust in risk communication, risk perception from hazard exposure and components of the theory of reasoned action. The trust in government component yielded only one significant correlation: American participants who perceived that social norms toward the use of safety gear were strong were also more likely to trust the government $r = .26^{**}$. The trust in management component was related to all of the components of the Theory of Reasoned Action. First, intention to comply with safety procedures yielded a correlation of $r = .26^{**}$ with trust for Mexicans. Second, the perceived social norms toward the use of safety gear produced correlations of $r = .26^{**}$ and $r = .46^{**}$ for Mexicans and Americans respectively, and an $r = .30^{**}$ correlation for attitudes toward safety and trust in management for Mexicans. In sum, Mexicans overall expressed a stronger behavioral intention [$M = 6.14$, $SD = 1.09$ for Mexicans and $M = 5.57$, $SD = 1.05$ for Americans ($F [1, 232] = 11.91$, $p <. 01^{**}$)]. They also expressed more a positive attitude toward safety than Americans [$M = 6.43$, $SD = .70$ and $M = 5.92$, $SD = .77$ respectively ($F [1, 232] = 28.65$, $p <. 01^{**}$)]. Thus, people who believe that the hazards are handled properly are more likely to endorse the risk management policies at their workplace.

Insert Table 8 about here

Predictive validity

Perception of risk. The most important proof of the validity of the TRC is that it actually predicts people's perceptions of risk (Nunnally and Bernstein, 1994). Theory says

that risk perception should decrease as trust increases. In the present study, perception of risk is defined as the extent to which workers feel endangered by exposure to hazards at their jobs. Participants from North America received information regarding the benefits of wearing modern fire-resistant clothing such as Nomex IIIA, Western Indura, and PBI fiber. These garments are fire-resistant and are designed to wear and feel like cotton. At the time the study was performed workers from Canada were required to wear these garments, while workers from the United States had access to the clothing only if they bought it. Mexican workers, however, were not even aware that such new types of clothing existed.

The construct was assessed with two scales: (a) a fear of job hazards questionnaire, and (b) a worry about injury and disease questionnaire. With the first measure, participants rated a series of industrial hazards (e.g., electrocution, falls) for the occupations of line workers (15 items) and elevator installers (28 items). Subsequently, workers were asked to rate the extent to which they believed that workers in their occupations were at risk from injuries and diseases (e.g., risk from burns, heart disease) by hazard exposure at the workplace. The Cronbach alpha reliabilities for the two subscales were above .80 in each of the five countries (Nunnally and Bernstein, 1994).

Trust and risk perception

Tables 1 and 2 indicate the means and standard deviations for each of the studies for the North American and South American group respectively. Overall, the results indicate that workers reported a heightened perception of risk and low trust in four out of five countries.

Next, Table 8 reports the results of the correlation analyses. The coefficients in Table 8 suggest some unique patterns of relationship. First, for the participants from South America as

trust increased, so did their concern about health outcomes. In contrast, for participants from North America as trust decreased, concern about health outcomes increased.

One interpretation for this is the following: The company, where these data were collected, had been implementing very strict safety management regulations in every country in which it operated. In particular, the branch in South America had been recognized, throughout the corporation, for its safety practices. As a result, this had led to risk acceptance from workers and a great trust in their management's risk communication practices. If the company's management expresses concern about hazard from exposure at the workplace, their workers are ready to listen.

The overall association between the TRC and the criteria worry about injury and disease and fear of job hazards lends support to the predictive validity of our instrument.

Divergent validity

Hope. Certain scales should yield an inverse relationship to the scale Trust in Risk Communication. In this case the Hope Scale was used to test for divergent validity (Snyder et al., 1991). Hope is defined as the process of thinking about one's goals, along with the motivation to move toward (agency) and the ways to achieve (pathways) those goals. There was no theoretical reason to believe that people who are more motivated (high hope) would be more or less trusting than people who are less motivated. The results confirmed this hypothesis; only one of the correlations was significant (see Table 5). In Brazil, people who endorse hope were somewhat more likely to distrust the government ($r = -.16^{*}$ $p < .05$).

Discussion

Trust is a crucial component of healthy human interactions and its role in the workplace is reflected in many facets of people's performance. In particular, companies that wish to enhance organizational safety must work on developing trustworthy relationships with their workforce. The two studies presented here as proof of the cross cultural validity of the TRC scale suggest that the TRC can be used to assess the perceived trust in hazard management among blue-collar workers in North and South America. The studies reported here concerning the psychometric characteristics of the TRC suggest that it possesses acceptable internal consistency across different cultural groups.

The studies provided some insights into the connection among trust, risk, compliance, values, and national culture. First, people should be informed of hazard consequences, and once they are informed, then they can weigh the negative (e.g., health risk) and positive aspects (e.g., monetary compensation) of hazard exposure and, hence, make an informed decision to either accept the job (and, therefore, the risks associated with the occupation) or not (Fischhoff, 1983). Second, providing honest information about hazard exposure should be built into the safety training programs of organizations so that individuals truly come to recognize the risks that surround them and avoid the common belief that "it will not happen to me". Third, companies that provide this type of information would most likely avoid further judicial and societal problems by showing their concern for their workers and willingness to improve the safety environment of their organizations.

Further analyses should be performed before concluding that trust is not related to culture because culture may mediate or moderate the relationship between risk perception and trust. In addition, as noted in the introduction, socio-economic threats may also mediate or moderate this relationship (Vaughan, 1993¸ Vaughan & Nordenstam, 1991).

We found support for the contention that high levels of trust in authority lead to a decreased perception of risk and a greater acceptance of risk management policies (Löfstedt, 2003; Poortinga and Pidgeon, 2003). Moreover, the results indicate that high levels of trust are moderately related to a greater endorsement of safety policies in the workplace.

In order to make meaningful comparisons of people from different nations most researchers have focused on values to understand their similarities as well as their differences. The values of individualism versus collectivism have been used as an umbrella of difference; hiding many of the other related values and important contextual issues, which may otherwise explain the phenomena at stake (Schwartz, 1990). Huff and Kelly (2003) found that people from the United States, who are highly individualistic, were more *likely* to trust than people from Asia, who are highly collectivistic. In the present study, we assessed the relationships of national culture and societal values with the likelihood that people would be trustful of others; respondents from Argentina, Canada, and the United States were considerably more individualistic than respondents from Mexico and Brazil. However, as stated earlier, we did not find any relationship between cultural values and the responses on the TRC scale or the Mayer et al. trust factors, which Argentineans and Brazilians completed. In fact, Brazilians who are more collectivist than Argentineans appeared to be more trusting than Argentineans (see the overall trend in Table 5). We surmise that trust unlike perception of risk is context dependent and not directly related to cultural values. This assertion may possibly explain why we did not find cross-cultural differences on trust, as Huff et al. did.

Providing honest and detailed information about the hazards, in a way that brings it as close to scientific knowledge as possible, will hopefully lead to people's risk awareness and accep-

tance of risk (Slovic, 1993). However, the effect of the information may be the opposite. People will become more distrusting depending on the real risks involved; thus it is crucial to consider that people believe that there are clear limitations to how much science and experts know (Sjöberg, 2001). The present results support our contention that trust can be defined both as a multiple component construct and as a global sentiment/feeling toward the other party and that the TRC is an appropriate measure for cross-national research.

Table 1

Means and Standard Deviations of Ratings of Trust in Management, Trust in Company, Perception of Risk from Job Hazards, and Worry About Injury and Diseases for Mexicans (n = 104), Americans (n = 130) and Canadians (n = 72). [A]

	Mexico		USA		Canada		ANOVA
	M	*SD*	*M*	*SD*	*M*	*SD*	*F (2, 304)*
Risk from job tasks	4.47	1.13	4.58	1.14	4.45	0.88	.45
Health outcomes	5.24	1.16	4.05	1.30	4.30	1.34	26.68***
Trust in Government	3.38	1.52	3.62	1.19	4.09	0.98	6.86***
Trust in Management	4.61	1.71	3.95	1.65	4.96	1.23	10.57***

$p < .001$. ***

[a] The rating of the subscales was on a 7 point semi-Likert type of scale

Table 2

Means and Standard Deviations of Ratings of Trust in Management, Trust in Company, Perception of Risk from Job Hazards, and Worry About Injury and Diseases for Argentineans (n = 47) and Brazilians (n = 178).[a]

	Argentina		Brazil	
	M	*SD*	*M*	*SD*
Risk from job tasks	4.83	0.75	4.68	0.59
Risk from Health outcomes	5.21	0.78	5.73	0.96
Trust in Government	1.88	1.14	1.98	0.94
Trust in Management	3.53	0.90	3.58	0.66

[a] These subscales were rated on a 6-point scale.

Table 3

Principal- Component Factor Analyses Loadings (Equamax Oblique Rotation) of Trust in Risk Communication for Samples from Canada, Mexico, and the United States[1, 2]

Trust in Risk Communication	Canada[a]		Mexico[b]		United States[c]	
Item no.	1	2	1	2	1	2
Trust in Management						
6. How competent do you fee that your supervisor is?	.87		.89		.93	
1. How much do you trust your supervisor when it comes to communicating about the risks in your job to you?	.87	-.12	.74	.31	.89	.19
7. Do you think that your supervisor does a good job?	.82		.90		.90	.15
2. How much do you trust the management when it comes to communicating about the risks in your job to you?	.91		.41	.65	.74	.44
Trust in Government						
3. How much do you trust the union when it comes to communicating about the risks in your job to you?	.30	.40	.40	.66	.29	.48
4. How much do you trust the government when it comes to communicating about the risks in your job to you?		.94		.90	.12	.91
5. How much do you trust the government health administration when it comes to communicating about the risks in your job to you?		.94		.80		.92
Eigenvalue	3.21	1.79%	3.13	1.75	3.79	1.50
Variance accounted	45.82	25.59	44.71	25.01	54.2	21.43

Note[1] *:* Factors are annotated by 1 and 2. [a] $n = 72$, [b]$n = 104$, and [c]$n = 130$ all male line workers.
Note[2]*:* Cronbach's alpha for trust in government were of .74 .73 .58 and for trust in management were of .78 .92 .88 for Canada, Mexico, and the United States respectively.

Table 4

Principal- Component Factor Analyses Loadings (Equamax Oblique Rotation) of Trust in Risk Communication for Samples from Argentina and Brazil

Trust in Risk Communication	Argentina		Brazil	
Item no.	1	2	1	2
Trust in Management				
6. I trust my health to XYZ's management[1]	0.81	0.47	0.46	0.32
7. At XYZ they try to protect their employees health	0.79	0.31	0.63	0.31
2. How much do you trust the management when it comes to communicating about the risks in your job to you?	0.77	0.45	0.84	0.23
8. I know I can trust on XYZ's management when it comes to safety information	0.76		0.68	
1. How much do you trust your supervisor when it comes to communicating about the risks in your job to you?	0.76	0.30	0.78	
Trust in Government				
4. How much do you trust the government when it comes to communicating about the risks in your job to you?	0.22	0.94		0.93
3. How much do you trust the union when it comes to communicating about the risks in your job to you?	0.28	0.92	0.13	0.91
5. How much do you trust the government health administration when it comes to communicating about the risks in your job to you?	0.34	0.88	0.54	0.55

Eigenvalue	5.19	1.20	3.52	1.45
Variance accounted	64.87%	15.05%	44.05%	18.10%

Note: [1]The new items are shown in italics.
Note[2]*:* Cronbach's alphas for trust in government were of .96 and .80 and for trust in management it was of .89 and .75 for Argentineans and Brazilians respectively.

Table 5
Mean Scores and Correlations of Trust Factors with Job Satisfaction, Mayer Trust subscales, and Hope for Argentineans (*n* = 47) and Brazilians (*n* = 178).

	Brazil			Argentina		
		Trust Management	Trust Government		Trust Management	Trust Government
	M *SD*			*M* *SD*		
Trust Management	3.58 .66		.43**	3.53 .90		.73**
Trust Government	1.98 .94	.43**		1.88 1.14	.73**	
Trust Mayer et al.	2.85 .40	.30**	.06	3.06 .49	.03	-.03
Ability Mayer et al.	3.75 .92	.50**	.07	3.09 .67	.53**	.40**
Benevolence Mayer et al.	3.33 .90	.53**	-.12	2.83 .59	.67**	.50**
Propensity Mayer et al.	3.07 .46	.30**	.04	3.18 .70	.67**	.39**
Integrity Mayer et al.	3.25 .44	.45**	.03	3.03 .29	.49*	.37**
Job Satisfaction		.46**	.29**		.39**	.25*
Hope		.07	-.16*		-.08	.13

Table 6

Means and Standard Deviations for the Components of the Schwartz Value Survey for Canadians (n = 56), Mexicans (n = 80), and Americans (n = 103)[a, b]

	Canada		Mexico		USA	
	M	SD.	M	SD.	M	SD.
Achievement	*7.03*	0.79	*6.05*	1.01	*6.74*	1.00
Hedonism	*7.02*	1.14	6.00	1.75	*7.00*	1.44
Conformity	*7.02*	0.89	*7.24*	1.06	*6.86*	1.21
Security	*6.88*	0.79	*6.50*	0.89	6.70	1.10
Self-direction	*6.86*	0.82	*6.88*	1.02	*7.00*	0.89
Benevolence	6.86	0.75	*7.01*	0.89	*6.88*	1.09
Universalism	6.77	0.80	6.76	1.04	6.31	1.24
Stimulation	6.17	1.19	5.03	1.56	6.05	1.31
Tradition	5.82	1.15	5.64	1.19	5.88	1.22
Power	5.63	1.13	5.36	1.28	5.08	1.32

[a] The rating for the items of the SVS was on a 9-point scale.
[b] The five highest means for each national group are shown in italics.

Table 7
Means and Standard Deviations for the Components of the Schwartz Portrait Value Questionnaire for Argentineans (*n* = 48), and Brazilians (*n = 178)*

	Argentina		Brazil	
	M	SD.	M	SD.
Security	*4.35*	0.94	*3.19*	1.27
Benevolence	*4.26*	0.75	2.95	1.34
Universalism	*4.17*	1.04	*3.07*	1.31
Self-direction	*4.13*	0.67	*3.08*	1.18
Conformity	*3.91*	1.04	2.97	1.10
Stimulation	3.36	0.87	*3.40*	0.95
Hedonism	3.35	1.06	2.95	0.95
Achievement	3.24	0.99	3.05	0.91
Tradition	3.19	0.79	*3.17*	0.68
Power	2.28	0.56	2.99	0.92

[a] The rating for the items of the Portrait Value Questionnaire was on a 6-point scale.
[b] The five highest means for each national group are shown in italics.

Table 8

Correlations Between Trust in Risk Communication, Risk Perception from Hazard Exposure and Components of the Theory of Reasoned Action

Country		Trust in Management	Trust in Government
Mexico	Worry about Injury and Diseases	-.02	-.03
	Fear from Job Hazards	.08	-.18+
	Behavioral Intention	.19*	.05
	Social Norms	.26**	.02
	Attitudes	.30**	.08
United States	Worry about Injury and Diseases	-.26**	-.18*
	Fear from Job Hazards	-.08	-.06
	Behavioral Intention	.06	-.14
	Social Norms	.46**	.26**
	Attitudes	.10	.11
Canada	Worry about Injury and Diseases	-.38**	.11
	Fear from Job Hazards	.08	-.08
Brazil	Worry about Injury and Diseases	.32**	.12
	Fear from Job Hazards	-.18*	-.11
Argentina	Worry about Injury and Diseases	.56**	.33*
	Fear from Job Hazards	.39**	.29*

*Note: p<.05;** p<.01*

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Appendix A

Trust in Risk Communication Scale

Trust in Management

6. I trust my health to XYZ's management

7. At XYZ they try to protect their employees' health

2. How much do you trust the management when it comes to communicating about the risks in your job to you?

8. I know I can trust on XYZ's management when it comes to safety information

1. How much do you trust your supervisor when it comes to communicating about the risks in your job to you?

Trust in Government

4. How much do you trust the government when it comes to communicating about the risks in your job to you?

3. How much do you trust the union when it comes to communicating about the risks in your job to you?

5. How much do you trust the government health administration when it comes to communicating about the risks in your job to you?

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