

Available online at www.sciencedirect.com

Procedia Social and Behavioral Sciences 15 (2011) 2105–2116

Procedia
Social and Behavioral Sciences

WCES-2011

Weisz communication styles inventory (WCSI: Version 1.0): development and validation

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Abstract

Borrowed heavily from child development theories, we proposed that people mainly use four psychological languages or communication styles for satisfying their different set of needs, that is, relationships (R) for affection, ideas (I) for attention, structures (S) for confirmation, and values (V) for esteem. Two studies were undertaken to develop a communication styles inventory. Multiple Correspondence Analysis and Latent Class Analysis (study 1) results indicated that 15-items communication styles inventory discriminates well among the four communication styles (i.e., R, I, S, V). Results of study two (university students) indicated that communication styles inventory is related to but yet different from the Big Five personality dimensions and emotional intelligence.

Keywords: Communication styles; multiple correspondence; latent class analysis;

1. Introduction

“Communication style is the way in which we communicate, a pattern of verbal and nonverbal behaviours that comprises our preferred ways of giving and receiving information in a specific situation” (*Saphiere, Mikk, & DeVries, 2005, p. 5*). Each style thus reflects the preferred way in which we interact with others. The importance of interpersonal communication at work and in social situations is frequently emphasized (see for example Hartley, 1999). However, what is evidently and frustratingly lacking is a robustly validated, non-proprietary and a relatively short measure of communication styles in the public domain. Therefore, the main purpose of this research is to develop a reliable and valid measure of communication styles.

2. Theoretical foundation

Mainly based on earlier researches (e.g., Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969; Erikson, 1959; Harlow, 1958; Mahler, 1936) we postulate four stages of child development, each crucial to the formation of human personality. We believe that, the thread of interpersonal relations runs throughout these four stages. Other people are indispensable to child's development (Erikson, 1959; Sullivan, 1953). In other words, the child's behavior during each stage is regulated by his own needs, desires, goals, skills, knowledge and expectations or by what other people need, desire, and expect for them (Markus & Nurius, 1984, p. 150).

2.1. Infants (Birth to 18 months)

The propensity to form relationships with others is genetically determined human factor and aids in survival (Zazzo, 1960). According to Bowlby (1969), early interactional patterns between infant and attachment figures (a mother, father, or a caregiver) are internalized by infants. He termed this internalization as internal working models of attachment (IWMs). These IWMs have direct influence on the infant's beliefs, attitudes, feelings, and expectations about his or her future interactions with attachment figures. These IWMs include memories of attachment, expectations of self (being worthy of love and care) and attachment figures (accessible to provide help), attachment goals and needs, and ways of securing attachment goals and needs (Feeney & Noller, 1996). Bowlby (1969) described four distinguishing characteristics of attachment (the process of internalization of attachment): (a) the desire of an infant to be near the attachment figure (caregiver) (proximity maintenance); (b) in the face of fear returning to the attachment figure (safe haven); (c) the attachment figure acts as a source of security from which the infant explore his or her world (secure base); and (d) infant protests when an attachment figure leaves and feels anxiety when separated from attachment figure. In sum, for the first 18 months an infant is totally dependent and needs affection, proximity, contact and reassurance. For instance, an infant's repeated experiences of being reassured (e.g., a pat on the back by a trusted caregiver when he awakens and cries) lead him to internalize capabilities of soothing himself or herself (Dozier, Higley, Ablus, & Nutter, 2002, p.543).

2.2. Toddlers (18 months to 3 years)

Around this age, a child can jump, run and turn door handles. He can find objects moved out of sight, sort objects, and do simple puzzles. He enjoys helping others, playing with other children, and likes to do things without help. More importantly, on one hand a child seeks physical and emotional proximity and on the other hand he wants autonomy and individuation (Mahler, Pine, & Bergman, 1975).

Mahler et al. (1975) termed this phase as *rapprochement*, which lasts between 18 months and 24 months. It is during these months that children act like confusing bunch, moving away from their primary caregivers, usually the mother, and the very next moment coming back for reassurance. A toddler takes pleasure in exploring the environment independently. As soon as, he realizes his helplessness, the needs for closeness and attention overcome the need for independence, for example, clinging back to his or her primary caregiver. According to Mahler et al. (1975), until now a child has learnt that his or her emotional needs are not automatically tended or sensed, unlike when they were infants. Therefore, during this phase, they demand attention from their caregivers. In the next phase, consolidation and object constancy (24 to 36 months), a child began to feel comfortable without primary caregivers, knowing that they will return. Now the child is able to accept that they are unique from their primary caregivers and therefore can substitute other (attachment) figures for his or her primary caregiver (Mahler et al., 1975).

In sum, the child needs support, encouragement, and focused attention as he begins to explore his or her world. It is worth to mention that, a child still has a strong attachment to his or her caregiver so a caregiver needs to be physically and emotionally present. Parents who either prevent their children from exploring (inhibiting their independence), neglect them (by lessening their attachment or attention), or are unavailable (when a child needs reassurance), may disrupt their child's normal development.

2.3. Preschoolers (3 years to 6 years)

This phase can best be characterized by curiosity, cause and effect experimentation, recognition of letters and numbers, awareness of time, hands-on-learning, independence, pretend plays or learning from playing (roles), awareness about methods and limits, and development of self-control.

Vygotsky (1933), a Russian psychologist, discussed the major role of play in the development of the preschoolers. According to him the play is the leading source of development in preschool years. In play a preschooler creates an imaginary situation therefore it is different from his other general form of activities. However, this imaginary situation will always contain rules, not developed in advance, but those stemming from the imaginary situation. Rules are made by the child himself, for example, I must behave in this game in such and such a way (i.e., rules of self-restraint and self-determination). For instance, if the child is playing the role of a teacher, then he or she should follow the rules of teaching. Vygotsky asserts that, it is at preschool age and during play activity that "Thought is separated from objects because a piece of wood begins to be a doll and a stick becomes a horse. Action according to rules begins to be determined by ideas, not by objects..... Thus, in play the child creates the structure meaning/object, in which the semantic aspect – the meaning of the word, the meaning of the thing – dominates and determines his behavior". During plays, a child learns subordination to rules and renunciation of acting on immediate impulse, that is, self-regulation or self-control. According to Vygotsky (1933) a child acts against his immediate impulse because, "to observe the rules of the play structure promises much greater pleasure from the game than the gratification of an immediate impulse".

According to Erikson (1959), during this period a child begins to assert his power and control over his environment through directing plays and other social interactions. A child makes up stories with physical objects (for example Barbie's dolls) and experiments with the blueprint for what he believes it means for an adult. In sum, the preschoolers are preoccupied by their desires for structure, limits or rules, methods, knowledge, and learning.

2.4. Middle Childhood (6 years to 12 years)

This stage can best be characterized by self-actualization and esteem. Self-actualization refers to self-fulfillment, a desire to become creative, and the realization of one's potential (Feist & Feist, 2006; Maslow, 1970), whereas esteem includes, self-respect, competence, and confidence. Esteem needs can further be divided into two categories—self-esteem and reputation (Maslow, 1970). Self-esteem (how good or bad children think about themselves) is reflected by a “desire for strength, for achievement, for adequacy, for mastery and competence, for confidence in the face of the world, and for independence and freedom” (Maslow, 1970, p.45), whereas “reputation is the perception of prestige, recognition, or fame a person has achieved in the eyes of others” (p. 281).

This phase begins with the appearance of the need for peers of equal status (Friest & Friest, 2006). During this stage children should learn to compete (Sullivan, 1953) because they believe that they must be competitive to be successful (Friest & Friest, 2006). In addition, Sullivan (1953) asserts that the need for affection and respect from peers dominate this period. According to Markus and Nurius (1984), self-understanding and self-regulation, two interdependent areas, are important for middle childhood. During this period, on one hand, the child is sensitive to the needs and expectations of others, whereas on the other hand he is sensitive to the knowledge of self coming from people around him.

According to Erikson (1959) this stage can best be characterized by a sense of industry, “I am what I learn.” Children are now capable of creating and accomplishing numerous skills and knowledge, thus developing a sense of industry (in contrast to one of inferiority) - a basic sense of competence. Children who experience failure during this stage, or cannot develop their capabilities and strengths, are prone to feeling of inferiority. Inferiority is a feeling of being useless (unable to contribute) in a group or in society thus leading to low-self esteem. Erikson termed this phase a crisis between industry and inferiority. If a child failed to demonstrate industry or acquired too much guilt during this period, he will likely feel inferior and incompetent during adulthood. Thus, during this period the child acquires the sense of personal competence that serves as a protective factor during adulthood (Charlesworth, Wood, & Viggiani, 2008). According to Mayseless (2005), “now conditions that elicit fear or distress in older children, but not in younger ones emerge. Many of these conditions involve self-related threats, such as hurt pride, shame, guilt, inability to measure up to expectations, and being rejected by peers” (p.12). In sum, during middle childhood, the child will experience the need of having accepted by others (e.g., peers, family, and teachers), self-competence, differentiation, and respect.

According to adult attachment theory, “adults are assumed to hold working models that may be based, in part, on those developed earlier in life but that also incorporate experiences in later significant relationships....As they do in childhood, these working models are thought to shape how adults interpret and respond to their social interactions” (Pietromonaco & Barrett, 1997, p. 409). Thus, these mental representations act as organizing factors in individual's intra-psyche world and influence personality development in optimal or pathological ways (Marrone, 1998). These mental representations “shape our cognitive, emotional and behavioral responses to others They affect how data are selected and integrated, how we evaluate others and our relationships with them, and the plans we conceive for dealing with our relationships with other people” (Feeney & Noller, 1996, p. 101). Do childhood personality traits really predict adulthood behaviors? Various longitudinal studies have revealed that our personality or behaviors during childhood predict our future behaviors (e.g., Hampson & Goldberg, 2006; Mischel & Shoda, 1998; Nave, Sherman, Funder, Hampson, & Goldberg, 2010).

Thus, we believe that, each system of needs which the child expresses and satisfies during different stages of development- affection during infancy, attention during toddlerhood, structure and limits during preschool, and esteem during middle childhood- tends to manifest itself during adulthood. In other words, mainly based on our childhood experiences, we hold different sets of working models for satisfying our affection, attention, confirmation, and esteem needs, respectively. Henceforth, we call an interpersonal working model as “psychological language or communication style” and define it as “a coherent and specific system of observable behaviors, emotional and thought mechanisms, verbal structures, and non verbal attitudes oriented towards the satisfaction of corresponding interpersonal need”. In light of prior literature and our 20 years consultancy and teaching based experiences with individuals from all spheres of life, we believe that people predominantly use four fundamental psychological languages - relationships (R), ideas (I), structures (S), and values (V) - for satisfying their attention, affection, confirmation, and esteem needs. A well-adapted personality uses each of the four psychological languages to some

degree; individuals develop preferences for using one of the four modes over the others. The frequent use of any particular psychological language largely depends on the importance of certain set of needs for an individual. Higher the desire for fulfillment of certain set of needs, the higher will be the use of corresponding psychological language and of the associated relational behaviors. Table 1 presents a summary of interpersonal needs and corresponding psychological languages or communication styles.

Table 1. Summary of communication styles

	Interpersonal Languages			
	Relationships (R)	Ideas (I)	Structures (S)	Values (V)
Interpersonal Needs	Affection, care, contact, proximity, reassurance, sharing, exchange, belonging, having a place, understanding, harmony, permission.	Getting attention, being listened to, being privileged, be important for the other one, encouragement, rhythm, complicity, play and laughter, quantitative sensory stimulations, freedom, movement, exploration.	Confirmation, compliance, structure, limits, process, procedures, learning, learning how to learn, knowledge, answers, position, trust.	Esteem, personal recognition, acknowledgement, difference, respect, consistency, assessment, ranking of values, fairness, surpassing, pushing the limits, strong excitement.
Main Values	Feeling, expression, warmth, kindness, harmony, cooperation, solidarity.	Freedom, interest, desire, availability, movement, motivation, curiosity.	Trust, contracts, clarity, experience, expertise, efficiency, good citizenship	Difference, excellence, competition, action, independence, effectiveness, ambition.
Specific Strengths and	Welcoming, greeting, guessing, sharing, supporting, co-operating,	Creativity, stimulating, encouraging, livening things up, introducing	Organizing, planning, optimizing, being efficient, being	Deciding fast, commanding, managing risks, innovating, being
Qualities	gathering, federating, networking.	movement, humor, entertaining, playing, associating ideas.	professional, being rigorous, being pragmatic, being realistic, being dedicated.	original, introducing change, evaluating, action taking, taking initiatives.
Specific Weak Points	Not asking, dealing too gently with people, feeling in danger, being worried, calling for help, taking care of people too much	Not ranking priorities, not finishing, repeating, liking to argue (“Yes, But”), Ping pong, contradicting.	Not taking initiatives, being too formal, being rigid, “its impossible”, following blindly, submitting to authority.	Not accepting mistakes, not accepting limits, being autocratic, risking too much, deciding too fast, “Me”, “I”.
Specific Evasion Patterns	Not doing anything, inhibition, making people feel guilty.	Tension, unproductive, reactivity, agitation.	Doing as little as possible, rigorist, fanaticism, dogmatism.	Aggressiveness, violence, persecution.

4. Study 1

The objective of this study was to develop and validate a communication styles inventory. In the first phase of constructing the scale, we generated a pool of 152 short phrases and adjectives organized in 38 frames of four choices each. Each choice within each frame reflected an adaptive tendency towards a particular communication style (i.e., R, I, S, or V. See Table 3 for details). Respondents selected a forced choice option of “most-like me” (one choice among the four).

4.1. Participants

A total of 1453 individuals (62% males), mainly from Europe, participated in the study. Participants included university students and individuals from diverse community settings (e.g., managers, employees, nurses, doctors, engineers etc). Participants from non-native English speaking countries were asked to fill the translated version of the questionnaire in their native languages. The average age of participants was 38.12 (S.D. = 10.25) years.

4.2. Analyses

To explore the inherent structure of the 38-item scale the Multiple Correspondence Analysis-MCA method (Benzécri, 1992) was applied to the response data set of $N = 1453$. MCA is a well-known multivariate method for statistical description of categorical data and is based on homogeneity principal. Homogeneity refers to the extent to which different categorical variables with different levels measure the same characteristic or characteristics (Gifi, 1990). In present study, MCA was applied to visualize the interrelationships between response categories of items with the help of joint plot of category points.

In the second step, we subjected the response patterns on the items to latent class cluster analysis (hereafter LCA) (Magidson & Vermunt, 2001). The major goal of LCA is to determine the number of latent classes R - in this case, communication styles- that are necessary to account for the association that exists among the manifest variables. The model was fitted by maximum likelihood estimation using *poLCA*, an R package, designed to fit latent class models including both continuous and categorical variables (Linzer & Lewis, 2010). Fit of the data to the model (or determining the appropriate number of clusters) is assessed via several fit indices. L^2 - maximum log-likelihood- indicates the amount of association among the manifest variables that remains unexplained after estimating the model. The lower the value of L^2 (among the set of different class solutions) is, the better the fit of the model to the data. In addition, the Bayesian information criterion, or BIC (Schwartz, 1978), Akaike information criterion, or AIC (Akaike, 1973), the Pearson's χ^2 goodness of fit and likelihood ratio chi-square (G^2) are used to assess the model-data fit. Preferred models are those that minimize values of these fit indices. Once the cluster solution is identified (1, 2, 3....), the respondents or cases are assigned to the latent class for which they have the highest posterior membership probability.

4.3. Results

In the first step, MCA was applied to the set of 38 questions. Ideally, respondents having the same communication styles will be close to each other (they should have similar scores), as well as, categories of 38 questions (representing four communication styles) will be close to each other if they belong to the same respondents. Initial visualization of joint probability plots and discrimination indices revealed that 23 items performed poorly in discriminating among the item options or styles. Thus, these 23 items were dropped from further analysis and we continued with a set of remaining 15 items. The MCA results are, joint plot of category points, for fifteen items are presented in Figure 1. The plot clearly supports four cluster solutions for item options corresponding to four communication styles, meaning items discriminate well among the options or styles. The Cronbach alpha, based on optimal scaling technique, revealed to be .81 for the overall set of 15 items.

Next, to identify the communication styles of respondents, we subjected their response patterns on 15 items to LCA. Latent class models were tested for 1-6 groups of latent classes. The results of LCA are presented in Table 2. As can be seen in Table 2 addition of additional classes increases the fit of the model but at the risk of fitting to noise and at the expense of estimating a larger number of model parameters (Linzer & Lewis, 2010). Therefore, the BIC index is usually more appropriate for basic latent class models because of their relative simplicity and their ability to take into account additional number of parameters (Linzer & Lewis, 2010).

As can be seen, the BIC (based on log-likelihood) was lowest for a 4-class model solution ($BIC_3 = 52282.86$, $BIC_4 = 51741.23$, $BIC_5 = 51813.65$). Further to this, as compared to model 5, the total number of estimated parameters was lower for the fourth model. Table 3 presents the profiles of these classes and the corresponding labels or communication styles. Overall, cluster 1 contains 30% of the cases, cluster 2 contains 15.94% of the cases, cluster 3 contains 39.29% of the cases and the remaining 14.76% are in cluster 4. The rationale for our labeling is revealed in examination of each class's conditional probabilities of responding to the 15 items. The conditional probabilities show the differences in response patterns that distinguish the clusters. For example, if a respondent selects option A on question one then there are 28% chances that he or she would be in cluster one. Likewise, for option B, C, and D, the probabilities to fall in cluster one are 0.04, 0.59, and 0.08, respectively. If we look at the probability patterns in Table 3, we can easily identify that cluster one is predominantly composed of individuals with S styles, cluster two with I styles, cluster three with V styles, and finally cluster four with V styles. In sum, with few exceptions, our latent class analysis identifies four classes of individuals with four different communication styles, which depicts that communication styles inventory discriminate well among the four communication styles.

Table 2. Latent class models fitted to CSI fifteen-item scale

Model	EP	RDF	MLL	AIC	BIC	G ²
1	45	1398	-27874.84	55839.69	56077.04	34761.09
2	91	1352	-26368.07	52918.14	53398.11	31747.53
3	137	1306	-25643.18	51560.36	52282.86	30297.76
4	183	1260	-25205.00	50776.00	51741.23	29421.40
5	229	1214	-25073.90	50605.79	51813.65	29159.19
6	275	1168	-24992.42	50534.83	51985.31	28996.23

Note. EP = estimated parameters ; RDF = Residual degree of freedom.; Maximum log likelihood; G² = Likelihood ratio/deviance statistics.

Table 3. Relative size of latent classes and conditional probabilities of item responses

			S	I	V	R
Q1	I am :					
A.	S1	Reasonable; well-balanced	.68	.25	.19	.45
B.	V1	Determined; persistent	.19	.11	.61	.03
C.	R1	Warm; welcoming	.06	.08	.02	.34
D.	I1	Enthusiastic; spontaneous	.05	.55	.16	.16
Q2	I am:					
A.	V2	Competitive; a winner	.08	.10	.49	.04
B.	R2	Co-operative; participative	.27	.13	.07	.64
C.	S2	Competent; professional	.59	.12	.29	.19
D.	I2	Creative; full of ideas	.04	.62	.13	.11
Q3	I am:					
A.	V3	a fighter; a conqueror	.08	.12	.49	.03
B.	I3	a developer of new ideas and new options	.15	.68	.28	.11
C.	S3	loyal; honest	.62	.15	.18	.45
D.	R3	a good partner. I render services	.13	.03	.03	.39
Q7	I sometimes:					
A.	R7	Treat people too gently or fail to give my opinion	.22	.25	.12	.58
B.	S7	Am formal; follow social conventions	.52	.07	.18	.25
C.	I7	Get off the track; say things in a complicated way	.10	.38	.16	.11
D.	V7	Am harsh ; too short with people	.14	.28	.53	.06
Q8	I like:					
A.	I8	Playful situations	.04	.40	.08	.13
B.	R8	Situations where relationships are harmonious	.16	.16	.03	.59
C.	V8	Situations where something important is at stake	.39	.39	.80	.11
D.	S8	Crystal-clear and properly defined situations	.39	.03	.07	.15
Q9	I like:					
A.	I9	To create movement	.04	.31	.17	.08
B.	V9	To go forward	.35	.38	.67	.26
C.	R9	To have team spirit	.20	.16	.06	.44
D.	S9	To provide clear information and analysis to others	.38	.13	.08	.20
Q11	I am:					
A.	R11	passive; avoid difficulties	.13	.29	.04	.57
B.	S11	rigid; go by the books	.76	.15	.32	.31
C.	V11	aggressive; violent	.07	.22	.54	.06
D.	I11	agitated; unproductive	.02	.32	.08	.04

Q13	I like:					
A.	V13	Being the best	.23	.27	.54	.11
B.	I13	Getting people's attention, their curiosity	.05	.43	.10	.11
C.	R13	Being liked by others	.14	.20	.13	.62
D.	S13	Being serious and pragmatic	.56	.09	.22	.14
Q14	I like:					
A.	R14	Being considerate; doing people a service	.14	.16	.11	.47
B.	S14	Doing each step of my work carefully and as it ought to be done	.58	.06	.18	.29
C.	I14	Surprising and amusing people	.03	.42	.11	.15
D.	V14	Showing I can do things better and differently	.23	.34	.59	.07
Q16	I like:					
A.	I16	Concepts; ideas	.14	.56	.14	.13
B.	V16	Action; results	.34	.20	.74	.16
C.	S16	Facts; methods	.44	.01	.04	.09
D.	R16	Relationships; contacts	.06	.21	.07	.60
Q20	I think that often:					
A.	I20	I treat things with humor	.08	.43	.14	.22
B.	V20	I stand up for my position with passion and assurance	.37	.35	.68	.11
C.	S20	I stay calm and don't show my feelings	.37	.06	.11	.19
D.	R20	I am sensitive to other people's feelings and needs	.16	.14	.06	.47
Q21	I like:					
A.	V21	Short statements which go straight to the point	.41	.29	.56	.23
B.	I21	Asking myself questions ; I think it is useful to question things	.14	.41	.17	.18
C.	R21	Sharing what I feel with others ; exchanging with them	.09	.25	.11	.45
D.	S21	Relying on objective information ; I believe that facts are the most important things	.34	.04	.14	.12
Q25	I like:					
A.	V25	Setting my own objectives	.17	.28	.39	.20
B.	S25	Planning before doing	.54	.13	.23	.25
C.	I25	Being free to tackle an issue as I want	.20	.56	.33	.22
D.	R25	Being careful and being sure of the future	.07	.02	.02	.31
Q36	In discussion, sometimes I:					
A.	I36	Am unclear; cultivate ambiguities and paradoxes	.06	.36	.06	.12
B.	V36	Force my point of view; want to be right all the time	.29	.53	.86	.29
C.	R36	Withdraw ; am passive	.18	.08	.03	.40
D.	S36	Conform to the existing framework; do not trust new ways of seeing things	.45	.01	.03	.17
Q38	I sometimes:					
A.	V38	Want to impress others ; appear threatening	.03	.16	.33	.04
B.	I38	Encourage disagreements ; argue for the sake of arguing	.05	.37	.20	.08
C.	S38	Go by the rules ; make things conform to norms	.59	.09	.28	.14
D.	R38	Avoid conflicts and confrontations	.31	.35	.17	.72

5. Study 2

The objective of this study was to establish the construct validity of the communication styles inventory vis-à-vis the Big Five personality dimensions and emotional intelligence in a sample of university students.

5.1. Participants

Participants of this study included 228 university students from two non-native English speaking national cultures: 101 from a university in Aix-en-Provence, France (45 males, 56 females), and 127 from a large university in the province of Balochistan, Pakistan (78 males and 48 females, one unreported). The average age of the participants was 30.75 ($SD = 7.90$) and 27.86 ($SD = 8.43$) for French and Pakistani samples, respectively.

5.2. Instruments

5.2.1. Communication Styles Inventory (CSI)

The CSI developed in study one.

5.2.2. Trait Emotional Intelligence Questionnaire (TEIQue)

The TEIQue (Petrides, Pérez-Gonzalez, & Furnhal, 2007) consists of 153 items rated on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Examples of items are “I am usually able to control other people”, “I often find it difficult to recognize what emotion I am feeling” and “I know how to snap out of my negative moods”.

5.2.3. Personality

The 50-item version of the International Personality Item Pool (IPIP) (Goldberg et al. 2006) Big-Five Factor markers was used to assess personality. The scale contains 10 items for each of the Big-Five personality factors: Extraversion (E) (“I am the life of the party”), Agreeableness (A), (“Take time out for others” Conscientiousness (C) (“Pay attention to details”), Emotional Stability (ES) (“Seldom feel blue”) and Intellect (I) (“Spend time reflecting on things”).

5.2.4. The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT).

The MSCEIT (Mayer, Salovey, Caruso, 2002) is a 141-item test that measures how well people perform tasks and solve emotional problems on eight tasks, which are divided into four classes or branches of emotional abilities, including (a) perceiving emotions, (b) facilitating thought, (c) understanding emotions, and (d) managing emotions.

5.3. Results

As expected, for the participants in the French sample, the extraversion and intellect revealed to be positively related with respondents’ scores on I style (see Table 4). This was consistent with CSI underlying theory, as I style individuals enjoy being the center of attention and are intellectual and creative. Likewise conscientiousness an attribute of S style was positively related to S scores and agreeableness was positively related to R scores. Likewise, for the participants in the Pakistani sample conscientiousness was positively related to S scores.

Regarding relationship between the TEIQue and the CSI, for the participants in the French sample, sociability and global TEIQue scores were significantly related to V scores and emotionality revealed to be positively correlated with R scores. In contrast, for the participants in Pakistani sample, neither of the TEIQue factors was related to CSI scores. Finally, for the participants in both samples, the MSCEIT revealed to be unrelated to CSI. It is worth to mention that, the significant correlations obtained between the CSI and the Big Five and the TEIQue were not so high to be deemed redundant.

6. Discussion

We all communicate differently and have different needs in meeting. Managers and teachers often find it helpful to have a model for recognizing different communication styles of other people (such as employees or students) with whom they are interacting. By having an insight into the communication styles, as well as their predominant needs, a manager or a teacher may be better able to detect and resolve many dysfunctional behaviors in students or employees. Unfortunately, there has been a lack of a psychometrically sound yet practically short communication styles measure for management research. The purpose of this study was to develop such a measure and provide evidence concerning its validity. We believe that communication styles inventory developed in this study is based on an insightful, yet simple, model that is easily understood and can be applied by casual users of the information.

The present study makes both academic and practical contributions, and suggests several applications for the research. Our academic contribution is to offer a significant advance to the current literature of interpersonal communication by affording an integrative framework to thoroughly understand why individuals interact in specific ways with others. Borrowed heavily from child development theories, we proposed that (a) there are certain set of

The present study makes both academic and practical contributions, and suggests several applications for the research. Our academic contribution is to offer a significant advance to the current literature of interpersonal communication by affording an integrative framework to thoroughly understand why individuals interact in specific ways with others. Borrowed heavily from child development theories, we proposed that (a) there are certain set of needs which children express and desire to satisfy during different stages of their development-affection during infancy, attention during toddlerhood, structure and limits during preschool, and esteem during middle childhood; (b) the same set of needs, one way or other, predominantly guide human behavior during adulthood; (c) people from their childhood relational experiences and satisfaction and non-satisfaction of these *needs*, develop cognitive representations, or internal working models, that consist of specific ways of expressing and satisfying these needs; (d) people mainly use four psychological languages or communication styles for satisfying their different set of needs, that is, relationships (R) for affection, ideas (I) for attention, structures (S) for confirmation, and values (V) for esteem; and finally (e) the frequent use of any particular psychological language or communication style depends on the importance of certain set of needs for an individual. Though some of the ideas expressed in this conceptual communication model may be familiar to psychologists or organizational behavior scientists, its value is in integrating these various notions to provide a more comprehensive and holistic picture of an individual's personality. This gives a new theoretical insight into how people interact with each other.

This study provides exploratory evidence for the reliability and validity of the 15-item communication style inventory. This gives a theoretical insight into how communication styles can be identified. MCA and LCA results indicated that 15-items scale discriminate well among the four communication styles. Furthermore, results indicated that communication styles inventory is related to but yet different from the Big Five personality dimensions and emotional intelligence.

We believe that many misunderstandings in interpersonal relationships derive from differences in communication styles. For instance, individuals high on S style may see individuals with V styles as abrupt and unplanned in taking actions. Conversely, individuals with V style can become irritated by individuals with S style who prefer established ways of doing things and are afraid of testing any new method of performing the task. Thus, managers can work effectively with their employees by taking into account their own preferred styles as well as of their employees.

The proposed scale could be used as a diagnostic tool to identify various personality types and may help managers in recruitment and selection. For instance, it is expected that individuals high on V style would perform well in leading roles, for example, leading a project or team, whereas people high on S style would be more suitable for official jobs, such as accounting or finance. Likewise, a combination of I and V styles (i.e., creativity, ideas, innovation, and actions) may be more suitable for jobs that require quick actions with new solutions, for example, aggressive marketing.

Future research is still needed to confirm these findings, as well as to explore the construct validity of the instrument vis-à-vis other related constructs. In addition, there were some limits based on the nature of the sample. Future testing of the instrument on more diverse populations might be necessary. In addition, in this study we used a cross-sectional data. Future studies may use longitudinal design to explore whether these communication styles remain relatively stable over the period of times or not.

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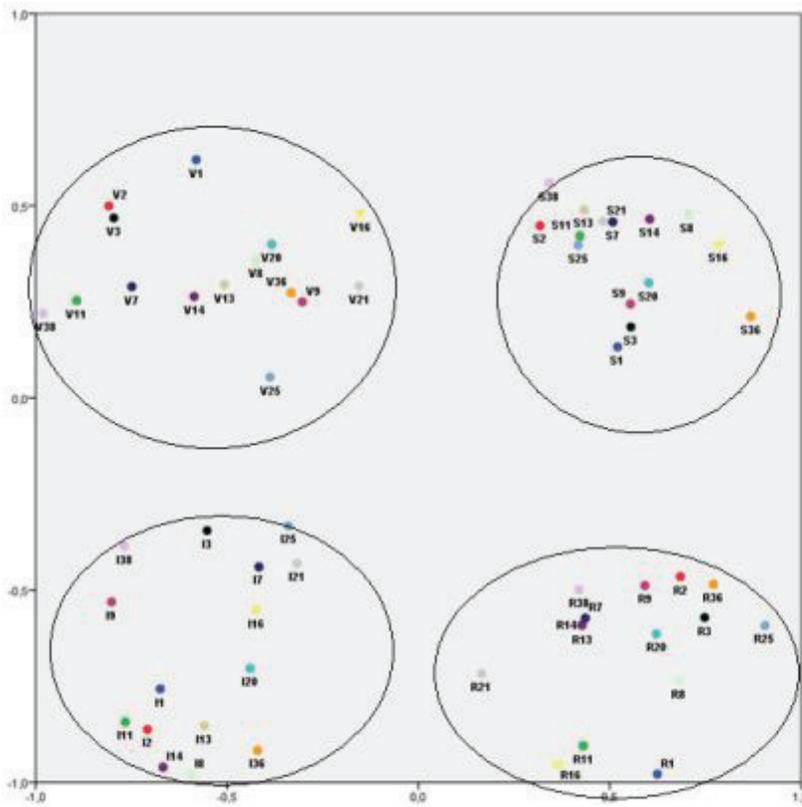


Figure 1. Joint plot of category points for final 15 items. Note. Letters represent the options corresponding to communication styles (R, I, S, V) and the numbers represent the item number.

Table 4. Correlations between communication styles scores and other variables in the study.

	France (N=111)						Pakistan (N=112)					
	Mean(S.D.)	Alpha	R	I	S	V	Mean(S.D.)	Alpha	R	I	S	V
E	3.44(.74)	.87	-.01	.30**	-.34**	.15	3.29(.72)	.80	-.06	.10	-.01	-.02
A	4.06(.51)	.80	.33**	.04	-.05	-.31**	4.06(.58)	.81	.14	.11	.15	.05
C	3.37(.72)	.84	-.13	-.39**	.40**	.12	3.57(.58)	.72	.07	-.20	.28**	.05
ES	3.19(.68)	.79	-.09	-.04	.05	.16	2.98(.71)	.81	.01	-.09	.25**	.09
I	3.69(.57)	.80	-.07	.40**	-.31**	.06	3.46(.53)	.71	-.06	.18	.15	.06
WB	5.22(.78)	.83	-.07	-.02	-.03	.15	5.05(.71)	.75	.07	.01	.04	.12
SC	4.13(.73)	.70	-.11	-.25*	.11	.18	4.24(.61)	.68	.05	-.19	.17	-.01
EMO	4.72(.68)	.71	.20*	-.06	-.03	-.17	4.64(.57)	.62	.00	-.08	.14	-.05
SOC	4.71(.65)	.70	-.30**	.15	-.17	.42**	4.97(.68)	.76	-.06	-.01	.03	.09
Global	4.69(.47)	.82	-.06	-.06	-.05	.19*	4.58(.48)	.86	.02	-.10	.12	.05
PER	97.31(13.48)	.87 ^a	-.05	-.15	.17	.12	92.51(13.97)	.86 ^a	-.07	-.01	-.05	-.00
USE	91.45(15.41)	.56 ^a	.05	-.05	.08	-.09	86.65(16.64)	.80 ^a	-.06	.07	-.03	.07
UND	87.57(10.38)	.60 ^a	.03	-.10	.04	-.03	77.62(11.56)	.74 ^a	.00	-.04	-.02	.05
MAN	85.58(9.35)	.51 ^a	.00	-.14	.04	.01	77.41(13.04)	.80 ^a	-.09	-.03	.02	-.13
TOT	86.34(10.70)	.84 ^a	.04	-.18*	.13	-.00	76.88(13.62)	.85 ^a	-.09	.01	-.02	-.01

Note. R = Relationships; I = Ideas; S = Structures; V = Values; E = Extraversion; A = Agreeableness; C= Conscientiousness; ES = Emotional stability; I = Intellect; SREIT = Self-report emotional intelligence test; WB = Well-being (TEIQue); SC = Self-control (TEIQue); EMO = Emotionality (TEIQue); SOC = Sociability (TEIQue); GobaI = Global trait EI (TEIQue); PER = Perception of emotions (MSCEIT); USE = Use of emotions (MSCEIT); UND = Understanding of emotions (MSCEIT); MAN = Management of emotions (MSCEIT); TOT = Total MSCEIT scores.

For the French participants, communication styles means and standard deviations were 3.81 (2.55), 2.96 (2.27), 3.63 (2.71), and 4.29 (2.71), for R, I, S, and V, respectively. For the participants in Pakistani sample the means revealed to be 3.84 (2.33), 2.09 (1.87), 3.80 (2.44), and 3.33 (2.05), for R, I, S, and V, respectively.

^a Split-half reliabilities were calculated due to item heterogeneity. * $p < .05$; ** $p < .01$.