

# Stability and Change in Kindergartners' Friendships: Examination of Links with Social Functioning

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## Abstract

*Stability and change in kindergartners' friendships were examined based on a typology of profiles (stable, fluid, loss, gain, friendless). Our purpose was to determine whether children belonging to the five profiles differed in their social functioning. The sample was composed of 2353 kindergartners. Reciprocal friendships and social functioning indices were measured using peer nominations collected in October and May of the same year. A series of repeated measures analysis of variance indicated that children in the friendless profile were less accepted by their peers, more shy, more withdrawn, and more aggressive than other children. Moreover, children in the stable profile were significantly more accepted by their peers, more prosocial, and less shy than children in the fluid profile. Lastly, children in the loss profile became less accepted by their peers and less prosocial over the course of the year whereas children in the gain profile became more accepted and prosocial.*

*Keywords:* kindergarten students' friendships; peer relations; stability and change; social functioning

An important issue in children's socioemotional development at the beginning of schooling is their capacity to establish harmonious relations with classmates (Buhrmester & Furman, 1986; Sullivan, 1953). Children in this context are exposed to a stable group of peers with whom they will have to interact on a daily basis for almost a year. Through these exchanges and interactions, they will come to form friendships that may or may not be maintained over time (Barbu, 2003; Howes, 1983; Ladd, 1990). These friendships are particularly important for children as they provide them with a context for learning new social and cognitive skills and contribute to their psychological well-being (Dunn, 2004; Hartup & Stevens, 1997; Howes, 1983).

To date, researchers studying the correlates of preschool-aged friendships have mainly focused on the number of friendships (Clark & Ladd, 2000; Ladd, 1990), their quality (Clark & Ladd, 2000; Ladd, Kochenderfer, & Coleman, 1996; Sebanc, 2003),

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and the characteristics of friends (Snyder et al., 2005). However, the temporal dimension of friendships has not been taken into consideration in these studies. In fact, when friendships are examined along a temporal continuum, their changing nature emerges: friendships are formed, some continue, and others end. This change in friendships is undoubtedly not random, and some children appear to experience it more than others. According to Poulin and Chan (2010), these individual differences in friendship stability are associated with children's behavioral and social characteristics. In line with studies conducted among older children (Bowker et al., 2010; Parker & Seal, 1996; Wojslawowicz, Rubin, Burgess, Booth-LaForce, & Rose-Krasnor, 2006), the present study examined this idea in relation to kindergartners.

### Friendship Stability

A friendship is defined primarily by the presence of reciprocity, that is, the fact that two children acknowledge its existence (Rubin, Bukowski, & Parker, 2006). Compared with non-reciprocal friendships, reciprocal friendships are characterized by a higher quality relationship and a greater frequency of positive interactions (Newcomb & Bagwell, 1995; Vaughn, Colvin, Azria, Caya, & Krzysik, 2001). Studies have shown that although kindergarten children can maintain some reciprocal friendships, they are recognized mainly for the unstable nature of their friendships (Dunn, 2004; Gershman & Hayes, 1983; Howes, 1983; Ladd, 1990; Ladd & Price, 1987; Lafreniere & Charlesworth, 1983). These studies reveal a great variability in the proportions of stable friendships, new friendships, and lost friendships. However, such indices of stability and change have never been correlated.

Wojslawowicz et al. (2006) suggested differentiating between two aspects of change in friendships. The first aspect involves the *presence/absence* of friendships. Thus, a child can have one friend (or more) at a given time and then no longer have any at another time. The second aspect of change relates to the *identity* of friends. Some children exhibit friendship stability in that they have one friend (or more) at any given time, but the identity of these friends changes; lost friendships are replaced by new ones.

A typology of profiles based on friendship stability that takes these two aspects of change into account was put forward (Parker & Seal, 1996; Wojslawowicz et al., 2006). Five profiles of stability were identified: (1) the *stable* profile, where children maintain friendships with the same peers; (2) the *fluid* profile, which includes children who lose friends but replace them with new ones; (3) the *loss* profile in which children lose friends without forming new friendships; (4) the *gain* profile, which includes children who have no friends at first but subsequently form friendships and (5) the *friendless* profile, which refers to the chronic absence of friendship.

These profiles help us to better understand the complexity of temporal stability in friendships and to examine the presence of individual differences. Studies on this issue have revealed that children in different profiles differ in their social functioning. A study by Parker and Seal (1996) showed that friendless children are more anxious and less accepted by their peers than children in the other profiles. Among those who have friends, children in the *loss* profile are more anxious and more withdrawn than other children. Another study conducted by Wojslawowicz et al. (2006) revealed that children in the *loss* and *friendless* profiles are more victimized and less prosocial than children in the *stable*, *fluid*, and *gain* profiles. Finally, one study reported that children in the *gain* profile are perceived to be less prosocial and more victimized than children in the *fluid* profile (Bowker et al., 2010).

On the whole, the findings of these studies illustrate the importance of considering the dimension of change in friendships and further validate the typology of friendship stability profiles. These studies have been conducted among school-aged children whereas the content, nature and function of friendships are bound to change over the course of development (Dunn, 2004; Hartup, 1996; Newcomb & Bagwell, 1995; Sullivan, 1953). Thus, the results obtained with school-aged children cannot be automatically generalized to the kindergarten period.

### The Present Study

This study examined the stability of friendships in kindergarten based on the typology of profiles developed by Wojslawowicz et al. (2006). Reciprocal friendships were identified at the beginning of the school year (October) and again at the end of the same school year (May). The purpose was to test whether children in different stability profiles (*stable, fluid, loss, gain, friendless*) also differed in terms of social functioning. In this study, peer acceptance and prosociality were considered to be indices of good social functioning whereas withdrawal, shyness, aggression, and victimization were used as indices of problematic functioning.

Four hypotheses were tested. The first two hypotheses were based on studies suggesting that in kindergarten, the presence of friends facilitates integration into the peer group (Ladd, 1990; Ladd, Birch, & Buhs, 1999; Sebanc, 2003) and protects them from victimization (Lamarche et al., 2006) whereas the absence of friends is associated with peer rejection (Ladd & Burgess, 1999; Ladd & Troop-Gordon, 2003) and a lower level of prosocial behaviors (Farver & Branstetter, 1994; Sebanc, 2003). Thus, we first hypothesized that chronically friendless children would show lower social functioning (i.e., be less accepted by their peers, less prosocial, more withdrawn, more shy, more aggressive, and more victimized) than children in the other four profiles. We also hypothesized that children who maintained friendship bonds at the beginning and end of the school year (*stable* and *fluid* profiles) would show better social functioning than children who were friendless at the beginning or end of the school year (*gain* and *loss* profiles).

Beyond the simple presence or absence of friends, maintaining a friendship is also associated with social functioning in kindergarten. Previous studies have suggested that children who form and maintain friendships appear to be more prosocial than those who do not maintain friendships (Howes, 1983; Ladd & Price, 1987; Lindsey, 2002) whereas great instability in friendships is associated with aggressive behavior (Barbu, 2003; Howes, 1983). Moreover, the duration of a friendship is closely linked to its quality (Berndt & Hoyle, 1985; Gershman & Hayes, 1983; Ladd et al., 1996). High-quality friendships among young children provide them with more validation, support, intimacy, and a feeling of security (Ladd et al.), which could prove to be an invaluable resource at the beginning of schooling. This therefore suggests that a relationship maintained with the same friend could provide better support than a friendship that has been replaced by another over the course of the year and could even result in better social functioning during this demanding period of adjustment. Thus, our third hypothesis was that children who maintained their friendships (*stable* profile) would achieve better social functioning than children whose friends changed over the course of the year (*fluid* profile).

Some children who form friendships at the beginning of the school year will then lose and not replace them. These children may then encounter difficulties in terms of

social functioning (Ladd, 1990; Ladd & Burgess, 2001; Ladd & Price, 1987). Other children who are friendless at the beginning of the year, making them vulnerable to social and emotional difficulties (Ladd & Troop-Gordon, 2003; Lamarche et al., 2006; Sebanc, 2003), will later form friendships. This may help them to improve their social competence and increase peer acceptance (Ladd; Vaughn et al., 2001). Thus, our fourth hypothesis was that the social functioning of children who were friendless at the beginning of the year but who subsequently formed friendships (*gain* profile) would improve over the school year; in contrast, the social functioning of children who had friends at the beginning of the year but lost and did not replace them (*loss* profile) would deteriorate.

Boys and girls do not differ in their ability to form and maintain friendships in kindergarten (Barbu, 2003; Howes, 1983; Ladd, 1990). However, girls have more reciprocal friends, have a more stable number of friends, and are more likely to have a best friend than boys (Ladd et al., 1996; Sebanc, Kearns, Hernandez, & Galvin, 2007; Vaughn et al., 2001). Also, boys experience more conflict and more relational aggression in their friendships (Ladd et al.; Sebanc, 2003). Consequently, children's gender was taken into account in the analyses.

## **Method**

### *Participants*

The sample was composed of 2353 kindergartners (48.5 percent girls) from 209 classrooms in 43 schools in various areas of a large suburb. These participants were recruited from three cohorts from 2002 to 2005. Parental consent was obtained for each of the children. The participating families represented a broad spectrum of socioeconomic levels.

This sample was obtained from a larger sample of 3828 children who had participated in a sociometric assessment. Some participants were withdrawn for the four reasons described later. Mean comparison tests were performed to check whether the children withdrawn differed from the rest of the sample on the variables examined in this study. First, we decided to retain only the classrooms in which the rate of participation in the sociometric assessment was higher than 75 percent. This criterion was set to ensure that the nomination procedure was valid and to minimize the risks that the best friends of students in the classroom had not participated in the assessment. Children in the 33 classrooms with a lower than 75 percent participation rate ( $N = 337$ ) were eliminated. No difference was observed between the latter and children from classrooms with a higher than 75 percent participation rate. Second, 175 participants were withdrawn because their photos were not included in the answer booklet. This situation was generally due to the child's absence when the photos were taken. Because there was no photo for these children, it was impossible to obtain information regarding their best friends and behaviors. It was therefore impossible to conduct any comparison analysis. Third, 320 participants were withdrawn because they were absent at one of the two data collection time points, making it impossible to examine the stability of their friendships. The comparison analysis showed that children who were absent at the fall assessment had a lower social preference score at T1 [ $t(3314) = -3.36$ ,  $p < .001$ ] and at T2 [ $t(3314) = -2.82$ ,  $p < .01$ ], were more shy at T1 [ $t(3314) = 4.95$ ,  $p < .001$ ] and at T2 [ $t(3314) = 2.92$ ,  $p < .01$ ], and were less prosocial at T1 [ $t(3314) = -2.60$ ,  $p < .01$ ] and at T2 [ $t(3314) = -3.30$ ,  $p < .001$ ] than children who were present at both measurement times. Moreover, children who were absent in the winter had a

lower social preference score at T1 [ $t(3314) = -3.07, p < .01$ ] and were less prosocial at T2 [ $t(3314) = -3.49, p < .001$ ]. Fourth, 643 participants were withdrawn because at least one of the friends nominated was absent at one of the measurement times, thus making it impossible to test the reciprocity and stability of the friendship bond. The comparison analysis revealed that children with at least one friend (as identified at T2) who was absent at T1 were less shy at T1 [ $t(2294) = 2.21, p < .05$ ] than children whose friends were not absent at T1. No significant difference was noted in the spring between children with at least one friend (as identified at T1) who was absent at T2 and children none of whose friends were absent at T2.

### Procedure

A procedure based on peer nominations was used to identify reciprocal friendships and to assess children's social functioning indices. This measure was administered to the children as a group in the classrooms, but each child answered it individually. In the first step, all children in the classroom whose parents had consented to their participation were photographed. These photos were then grouped together on the same sheet to create the answer booklet for the children. Each page of this answer booklet corresponded to a statement (see description further on). For each statement, the children indicated their choice by circling the corresponding photos of their classmates. This measure was administered by two trained research assistants. The research assistants distributed a booklet to each of the participating children in the classroom. Instructions were given and precautions were taken to ensure that answers remained confidential (e.g., keeping children away from each other, putting up partitions). A first practice question was to 'circle your own face on the first page' in order to make sure that the children understood the procedure. Once the interview was finished, the research assistants checked to see if the children had appropriately answered each of the questions and handed out a reward (i.e., stickers) to thank them for their participation. It took an average of 30 min to administer the test. This procedure was used at the beginning of the school year (October) and end of the school year (May).

### Measures

*Friendships.* The children were asked to circle 'the face of the children who are your three best friends'. The existence of a friendship bond was determined by applying the reciprocity criterion as recommended by several researchers (Berndt & Hoyle, 1985; Hardy, Bukowski, & Sippola, 2002; Rubin et al., 2006; Vaughn et al., 2001). When a child circled the face of a friend who did not identify him or her as a friend, the relationship was considered to be not reciprocated and was not retained for this study. The number of reciprocated friendships at each measurement time ranged from 0 to 3.

*Friendship Stability Profiles.* The identification of friendship stability profiles was based on studies conducted by Wojslawowicz et al. (2006). Five stability profiles were identified. In the *stable* profile, children had at least one friendship that was maintained throughout the fall and spring with the same peer, even when their other friendships were not maintained or they formed new friendships. In the *fluid* profile, children did not maintain any stable friendship with the same child over time but replaced lost friendships by forming new friendships with different peers. Children in the *loss*

profile had at least one friendship in the fall but no longer had it in spring. Children in the *gain* profile did not have any friends in the fall but had some in spring. Lastly, children in the *friendless* profile had no friends in the fall or spring.

*Child's Social Functioning.* Social functioning indices were measured using the same peer nomination procedure. The temporal stability, construct validity, and concomitant validity of this procedure have been demonstrated for kindergarten students (Vitaro, Tremblay, Gagnon, Piché, & Royer, 1988). Fourteen (14) statements were used to measure social functioning indices. The nominations received for each child on each of the statements were recorded and standardized by classroom. *Social preference* was measured using two statements. The first statement referred to peer group acceptance, 'Circle the face of three children you most like to play with', and the second referred to rejection, 'Circle the face of three children you don't like to play with'. The social preference score was calculated according to the procedure devised by Coie, Dodge, and Coppotelli (1982) by subtracting the rejection score from the acceptance score. For the other items, children were asked to indicate two choices. *Prosociality* was assessed using two statements: 'organize the games that are the most fun' and 'help other children most'. A mean score was calculated based on these two statements ( $r = .53$  at T1 and  $r = .65$  at T2). *Aggression* was assessed using six statements: 'fight the most', 'hit and push other children the most', 'say bad things to other children', 'tell their friends not to play with other children', 'tell their friends secrets or bad things about other children', and 'get angry when they don't get their way'. A mean score was calculated based on these six statements; the internal consistency was found to be very good ( $\alpha = .84$  at T1 and  $\alpha = .86$  at T2). *Victimization* was assessed using two statements: 'get pushed around or hit by others', and 'get called names by other children'. A mean score was calculated based on these two statements; the internal consistency was found to be moderate ( $r = .53$  at T1 and  $r = .50$  at T2). *Shyness* was assessed by the statement 'are shyest' and *withdrawal* was assessed by the statement 'like to play all by themselves'. Statements relating to shyness and withdrawal were analyzed separately as the correlation between the two was very weak.

### *Plan of Analysis*

To determine whether children in different stability profiles differed in their social functioning over the course of the school year, a 5 (profiles)  $\times$  2 (times)  $\times$  (gender) repeated measures multivariate analysis of variance (MANOVA) was performed, simultaneously including all social functioning indices (social preference, prosociality, aggression, victimization, shyness, and withdrawal). Then, a series of repeated measures ANOVAS with *a priori* contrast analyses were conducted on each of the social functioning indices in order to test the four study hypotheses. These contrast analyses involved comparing the following stability profiles: (1) *with friends* (*stable*, *fluid*, *loss*, and *gain*) vs. *friendless*; (2) *stable* and *fluid* vs. *loss* and *gain*; (3) *stable* vs. *fluid*; and (4) *loss* vs. *gain*.

The main effects, the interaction effects of the MANOVA and the simple effects of ANOVAS with *a priori* contrasts were reported. When profiles  $\times$  times interactions were noted, ANOVAS were performed on the change score (score obtained at T2—score obtained at T1) with *a priori* contrasts for the social functioning variables involved.

## Results

Preliminary analyses of the total number of friendships formed over the school year (e.g., ANOVA performed only on the four *with friends* profiles) showed that children in the *fluid* profile formed a greater number of friendships over the year than children in the *stable* profile [ $M = 3.02$  and  $2.77$ ;  $F(3, 2070) = 362.19$ ,  $p < .001$ ,  $n^2 = .34$ ]. In contrast, no significant differences in terms of total number of friends were observed between the *loss* and *gain* profiles. Given these results, we decided to include the total number of friends as a covariable in the analyses of the comparison of *stable/fluid* vs. *loss/gain* profiles (hypothesis 2) and the comparison of *stable* and *fluid* profiles (hypothesis 3). The number of friends for each profile is presented in Table 1.

Preliminary analyses were also conducted on the gender composition of the reciprocal friendships and revealed that, overall, 12.1 percent of the friendships were cross-gender. An ANOVA performed only on the four *with friends* profiles showed that there were fewer cross-gender friendships in the *stable* profile compared with the three other profiles [9.7 percent vs. 13.8 percent;  $F(3, 2070) = 6.325$ ,  $p < .001$ ]. This effect applied equally to girls and boys.

### Prevalence of Stability Profiles

The number of children in each stability profile, by gender, is presented in Table 2. A chi-square analysis revealed that there were more children in the *stable* profile compared with the other profiles,  $\chi^2(4) = 634.87$ ,  $p < .001$ . However, there was no gender difference in the number of children in each profile [ $\chi^2(1) = 5.10$ , not significant].

**Table 1. Means (and Standard Deviations) of Number of Friends at Each Measurement Time and Total for Each Stability Profile**

	Stable (N = 940)		Fluid (N = 471)		Loss (N = 300)		Gain (N = 362)		Friendless (N = 280)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
T1	1.98	.76	1.46	.63	1.44	.64	.00	.00	.00	.00
T2	2.10	.77	1.56	.71	.00	.00	1.52	.69	.00	.00
Total	2.77	.99	3.02	.96	1.44	.64	1.52	.69	.00	.00

**Table 2. Number and Proportion of Girls and Boys for Each Stability Profile**

	Stable	Fluid	Loss	Gain	Friendless
	N (%)				
Girls	474 (41.5)	239 (20.9)	137 (12.0)	165 (14.4)	127 (11.1)
Boys	466 (38.5)	235 (19.4)	160 (13.2)	198 (16.4)	152 (12.6)
Total	940 (39.9)	474 (20.1)	297 (12.6)	363 (15.4)	279 (11.0)

*Stability Profiles and Social Functioning*

The repeated measures MANOVA revealed a significant effect for the profiles factor [ $F(4, 2343) = 88.92, p < .001, \eta^2 = .13$ ]. Significant univariate effects were observed for social preference [ $F(4, 2343) = 214.65, \eta^2 = .27$ ], prosociality [ $F(4, 2343) = 188.09, \eta^2 = .24$ ], withdrawal [ $F(4, 2343) = 8.98, \eta^2 = .02$ ], shyness [ $F(4, 2342) = 19.62, \eta^2 = .03$ ], and aggression [ $F(4, 2343) = 17.52, \eta^2 = .03$ ] (all  $p$  value  $< .001$ ) but not for victimization [ $F(4, 2343) = 2.17, p = .07$ ]. Means and standard deviations of social functioning indices at T1 and T2 for each stability profile are presented in Table 3.

A profiles  $\times$  gender interaction was also observed in the repeated measures MANOVA [ $F(5, 2343) = 5.26, p < .01, \eta^2 = .01$ ]. Univariate effects revealed that the profiles  $\times$  gender interaction effect was found only for victimization [ $F(4, 2343) = 3.34, p < .01, \eta^2 = .01$ ]. An ANOVA was conducted separately for boys and girls and significant effects were observed only for boys. These findings will be explained in detail later on.

The repeated measures MANOVA also revealed a significant profile  $\times$  time interaction effect [ $F(4, 2343) = 10.31, p < .001, \eta^2 = .02$ ]. The ANOVAs series performed on each social functioning index showed significant profile  $\times$  time univariate effects for social preference [ $F(4, 2343) = 14.18, p < .001, \eta^2 = .02$ ], prosociality [ $F(4, 2343) = 10.28, p < .001, \eta^2 = .02$ ], withdrawal [ $F(4, 2343) = 3.04, p < .05, \eta^2 = .01$ ], shyness [ $F(4, 2343) = 2.71, p < .05, \eta^2 = .005$ ], and victimization [ $F(4, 2343) = 4.13, p < .01, \eta^2 = .01$ ] whereas the interaction effect was not significant for aggression [ $F(4, 2343) = 1.21, p = .31$ ].

For ease of understanding, results of the analyses are reported by hypothesis (i.e., by contrast). Results of the contrasts are shown in Table 3. Means and standard deviations of the change score of different profiles for each social functioning variable are presented in Table 4.

*Hypothesis 1 (Stable, Fluid, Loss and Gain vs. Friendless).* Results of this first contrast revealed that children in the *with friends* profiles (*stable, fluid, loss, and gain*) were more accepted by their peers, more prosocial, less socially withdrawn, less shy, and less aggressive than children in the *friendless* profile. A profiles  $\times$  times effect for the social withdrawal variable and the victimization variable revealed that *friendless* children become more withdrawn and less victimized over the school year whereas children in the *with friends* profiles were neither highly withdrawn nor highly victimized. Also, a profiles  $\times$  gender effect revealed that *friendless* boys ( $M = .14, SD = .05$ ) were more victimized compared with boys in the *with friends* profiles ( $M = -.02, SD = .02$ ).

*Hypothesis 2 (Stable and Fluid vs. Loss and Gain).* Results of this second contrast showed that children in the *stable* and *fluid* profiles were more accepted by their peers, more prosocial, less shy, and less withdrawn than children in the *loss* and *gain* profiles. No differences were observed for aggression but a significant profiles  $\times$  gender interaction effect was found for victimization. Boys who had friends all year long (*stable* and *fluid* profiles) ( $M = -.06, SD = .02$ ) were less victimized than those who had no friends at one point during the school year (*loss* and *gain* profiles) ( $M = .06, SD = .03$ ).

*Hypothesis 3 (Stable vs. Fluid).* Results of this third contrast showed that children in the *stable* profile were more accepted by their peers, more prosocial and less shy than children in the *fluid* profile. A profiles  $\times$  times effect for the withdrawal variable was

**Table 3. Means (Standard Deviations) of Each Social Functioning Index for Each Stability Profile at T1 and T2**

	Stable		Fluid		Loss		Gain		Friendless		<i>p</i>
	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	
Social preference	.68 (.138)	.73 (1.36)	.33 (1.39)	.32 (1.42)	-.31 (1.39)	-.78 (1.38)	-.60 (1.44)	-.28 (1.46)	-1.39 (1.46)	-1.50 (1.32)	*abc
Prosociality	.32 (.77)	.39 (.80)	.06 (.72)	.08 (.76)	-.18 (.69)	-.44 (.55)	-.23 (.67)	-.14 (.70)	-.53 (.54)	-.60 (.49)	*abcd
Shyness	-.17 (.87)	-.11 (.87)	-.04 (.92)	-.06 (.88)	.05 (.94)	.06 (.93)	.19 (.97)	.02 (.98)	.24 (.98)	.27 (1.02)	*abc
Withdrawal	-.09 (.92)	-.04 (.90)	.00 (.93)	-.09 (.90)	.10 (.95)	.10 (.93)	.11 (.93)	-.05 (.91)	.12 (1.01)	.24 (1.01)	*ab
Aggression	-.08 (.59)	-.07 (.62)	-.07 (.63)	-.07 (.62)	.07 (.75)	.13 (.82)	.08 (.76)	.05 (.76)	.22 (.81)	.23 (.83)	*a
Victimization	-.05 (.71)	.02 (.86)	-.03 (.76)	.00 (.75)	.05 (.82)	-.06 (.76)	.05 (.82)	.04 (.78)	.16 (.86)	.04 (.88)	n.s.

*Note:* The letters a, b, c, and d indicate the contrasts that proved to be significant; a (hypothesis 1)—stable, fluid, loss, and gain profiles vs. friendless profile; b (hypothesis 2)—stable and fluid profiles vs. loss and gain profiles; c (hypothesis 3)—stable profile vs. fluid profile; d (hypothesis 4)—loss profile vs. gain profile.  
 \* *p* < .001. n.s. is not significant.

**Table 4. Means (and Standard Deviations) of the Change Score of Social Functioning Indices for Each Stability Profile**

	Stable	Fluid	Loss	Gain	Friendless	
Social preference	.05 (1.35)	-.01 (1.47)	-.48 (1.38)	.32 (1.37)	-.11 (1.29)	***d
Prosociality	.07 (.91)	.01 (.89)	-.26 (.75)	.09 (.74)	-.06 (.66)	***d
Shyness	.06 (1.10)	-.02 (1.11)	.02 (1.13)	-.17 (1.12)	.03 (1.12)	*d
Withdrawal	.06 (1.20)	-.09 (1.25)	.01 (1.36)	-.16 (1.15)	.12 (1.35)	*ac
Aggression	.01 (.53)	.00 (.58)	.06 (.62)	-.03 (.56)	.02 (.66)	n.s.
Victimization	.08 (.86)	.02 (.90)	-.11 (.90)	.00 (.86)	-.12 (.91)	**a

*Note:* The letters a, b, c, and d indicate the contrasts that proved to be significant; a (hypothesis 1)—stable, fluid, loss, and gain profiles vs. friendless profile; b (hypothesis 2)—stable and fluid profiles vs. loss and gain profiles; c (hypothesis 3)—stable profile vs. fluid profile; d (Hypothesis 4)—loss profile vs. gain profile.

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

noted. Children in the *fluid* profile became less withdrawn whereas children in the *stable* profile did not change. No significant differences were found between the *stable* and *fluid* profiles for the victimization and aggression variables.

*Hypothesis 4 (Loss vs. Gain).* Results of this last contrast revealed that children in the *loss* profile were less prosocial than those in the *gain* profile. Profiles  $\times$  times interactions were noted for social preference, prosociality, and shyness. Children in the *loss* profile were less rejected by their peers and more prosocial than children in the *gain* profile in the fall, but over the course of the school year, they became more rejected and less prosocial than children in the *gain* profile whereas the latter became less rejected and more prosocial. Moreover, children in the *gain* profile became less shy whereas the degree of shyness among children in the *loss* profile did not change.

## Discussion

The stability of reciprocal friendships between the beginning and end of kindergarten was examined in this study through an approach based on stability profiles. The results will be explained for each of the four hypotheses.

The first hypothesis suggested that children in the *friendless* profile would show poorer social functioning than children in the *with friends* profiles. It was in fact observed that friendless children differed from children in the other four profiles in a negative way on all social functioning indices. These findings are consistent with those of other studies conducted among kindergartners and support the idea that having friends helps children to integrate into and function in their peer group (Ladd, 1990; Ladd & Price, 1987; Ladd & Troop-Gordon, 2003; Parker & Seal, 1996; Sebanc, 2003). Moreover, our findings suggest that the absence of friends is particularly problematic when it continues over time. In fact, the difficulties encountered by the children in the *friendless* profile were greater than those encountered by the children who were only temporarily without friends (*loss* and *gain* profiles).

The second hypothesis stipulated that children who had at least one friend at each of the measurement times (*stable* and *fluid* profiles) would show better social functioning

than children who had one friend (or more) at only one time (*loss* and *gain* profiles). Results revealed that children in the first two profiles were more prosocial, more accepted by their peers, less shy, and less withdrawn than those in the other two profiles. It might be that children without friends at one of the measurement times had more difficulties maintaining and forming friendships because they were more shy and withdrawn. This would make them more liable to being deprived of opportunities to play and interact with friends and thus to practice and develop their social skills. Peers might perceive friendless children's withdrawal behaviors as an indication that they are not interested in others and react by further rejecting them. This may make it even more difficult for friendless children to maintain or form friendships (Gazelle & Ladd, 2003). Furthermore, other children are less interested in keeping company with rejected children, undoubtedly for fear of being rejected themselves (Buhs & Ladd, 2001).

The third hypothesis maintained that children in the *stable* profile would show better social functioning than children in the *fluid* profile. Results revealed that children who maintained at least one relationship with the same friend over the school year displayed more prosocial behaviors, were more accepted by their peers, and were less shy than those who changed friends over the course of the school year. It might be that children in the *stable* profile possess better social skills and a greater ability to resolve conflicts and to co-operate, which would allow them to have higher quality friendships and maintain them more easily over time. Moreover, the *stable* and *fluid* profiles did not differ on aggression and victimization. Thus, for children in the *fluid* profile, the fact that they were not able to keep the same friends and had to make new friends could be explained to a greater extent by a lack of social skills (i.e., they were less prosocial and more shy) rather than by their conflictual style of interacting with their peers (i.e., they were neither aggressors nor victims). Lastly, results revealed that the degree of social withdrawal among children in the *fluid* profile decreased significantly over the school year. This decrease can be explained in at least two ways: the loss of friends prompted them to be more socially active and to turn to other peers in order to form new friendships; they became less withdrawn because they were seeking friends with whom they had more affinities or similarities in behavior (Rubin et al., 2006), which has, moreover, been observed among older children in the *fluid* profile (Bowker et al., 2010).

In contrast with this study, no difference was observed between children in the *stable* and *fluid* profiles in the study conducted by Wojslawowicz et al. (2006) among older children. Thus, maintaining at least one relationship with the same friend over the school year appears to be more important for children in kindergarten. Kindergarten is a transition period that has many challenges in terms of social and school integration and during which children need to feel secure. Studies have demonstrated that high-quality friendships provide more support and a feeling of security in addition to being more stable over time (Ladd et al., 1996), which proves to be an invaluable resource at the beginning of schooling (Ladd, 1990). Thus, a stable relationship with the same friend could meet the needs of young children to a greater extent and thus represent a particular and specific contribution in kindergarten. The importance of friendship stability appears to decrease over the following years when children are more accustomed to the school setting.

The fourth hypothesis maintained that the social functioning of children in the *loss* profile and the *gain* profile would evolve differently over the school year. Results revealed that children in the *loss* profile became more rejected and less prosocial

whereas those in the *gain* profile became less rejected, more prosocial, and less shy. These findings illustrate both the negative correlates of losing friends without replacing them and the positive correlates of making new friends. Children who were already in the *loss* profile in the fall exhibited some aggression, were not very prosocial, and were rejected by their peers. It is possible that over the school year, the behavior of these children might have caused their friends to dislike them, causing their friendships to break up. Furthermore, the loss of friends would make them more prone to rejection as other children in the classroom would not be attracted to peers who were perceived negatively. This, in turn, could contribute to their difficulty in forming new friendships (Buhs & Ladd, 2001).

Children in the *gain* profile became more prosocial, less rejected, and less shy over the school year. Two processes can be at play here. First, it is likely that having formed new friendships, children in this profile gain self-confidence and become less shy, which leads them to express their prosociality with more confidence in the classroom context. Thus, friendship appears to play a reassuring role while providing a context for them to practice and develop their prosociality (Dunn, 2004; Hartup & Stevens, 1997; Howes, 1983; Ladd, 1990). Second, studies have demonstrated that shy children can have just as many friends as other children, but they take longer to form these friendships (Ladd & Burgess, 1999; Rubin et al., 2006). Thus, by getting to know their classroom peers, children in the *gain* profile become less shy and their enhanced prosocial behaviors appear to reflect their efforts to form friendship bonds (Barry & Wentzel, 2006).

### *Gender Differences*

All the analyses conducted in this study included the children's gender. The proportion of boys and girls in each profile was found to be the same. However, the findings regarding victimization suggested that boys seem to be more vulnerable to the absence of friends (*friendless*, *loss*, and *gain* profiles) and to be more protected by the stability of their friendships compared with girls.

### *Limitations and Strengths of the Study*

A first limitation is that all the study variables were measured by a single unvarying procedure. Thus, some of the reported effects could be partly attributed to a problem of shared variance due to the use of the same methodological procedure. However, the use of a nomination procedure that applies the reciprocity criterion has been clearly recognized as the most valid method for identifying friendships (Furman, 1996; Hardy et al., 2002; Ladd et al., 1996; Rubin et al., 1998; Vaughn et al., 2001). Moreover, the procedure based on peer nominations is a highly reliable method for assessing an individual's behavior and status among peers as it represents the perspective of several observers with mutual interpersonal relations (Brendgen, Vitaro, Bukowski, Doyle, & Markiewicz, 2001; Vaughn et al.). In addition, the temporal stability, construct validity, and concomitant validity of this procedure used with kindergarten children have been demonstrated (Vitaro et al., 1988). A second limitation relates to the small effect size of some of the results obtained, which indicates that the share of variance explained by the stability profiles is small and other variables can contribute to explaining the individual differences in social functioning. A more wide-ranging study of children's social functioning, including further direct

systematic observation as well as indirect measures (teacher and family reports), might reveal stronger effects of the presented friendship profiles. Such a multi-method and multi-informant approach will certainly provide more information about 'how' the profiles differ and 'why' they differ.

This study stands out because of its sample size, which made it possible to use very strict criteria for identifying mutual friendships. In fact, some criteria (i.e., classroom with higher than 75 percent participation rate, presence of children's photos, presence of the child and his or her friends at both measurement times) were used to maximize the chances that the children's best friends participated in the sociometric assessment at both times. Indeed, if these criteria were not controlled for, the distribution of children in the stability profiles would have been affected, and it is possible that the number of children in the *fluid*, *friendless*, *loss*, and *gain* profiles would have been overestimated. Moreover, the presence/absence of children when the sociometric nomination assessment was administered appears to be linked with how their social functioning was perceived by their peers.

In this study, the differences observed between the five profiles of friendship stability in terms of social functioning contributed to supporting the merit of this profile-based approach. These results also give rise to several new questions. For instance, the possibility of a causal influence of social functioning on friendship stability should also be examined. For example, if children are victimized or rejected by their peers, does this cost them certain friendships? Also, other social functioning dimensions should be correlated with these stability profiles, in particular the feeling of loneliness, depressive feelings, and academic involvement. Future studies should also examine the *characteristics* of friends among children in the different profiles. A friendship is, by definition, a mutual relationship between two persons; thus, in examining stability profiles, the influence of the characteristics of either friend should be considered. For instance, in the present study, we found that friends in the *stable* profile were more likely to be of the same gender compared with the other profiles. Chan and Poulin (2007) also found that cross-gender friendships were less stable among older children. In addition, it is important to pursue research on the *quality* of friendships (Ladd et al., 1996; Sebanc, 2003) and link them up with the friendship stability profiles. In particular, it is important to determine whether the friendships in different profiles vary according to the quality of positive dimensions (e.g., support, intimacy, validation) and negative dimensions (e.g., conflict, exclusivity, dominance).

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