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A short-term longitudinal analysis of friendship selection on early adolescent substance use

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Abstract

There is a strong empirical connection between individual and peer substance use during adolescence. The determination of whether this level of covariation reflects influence or selection is obscured by both the design and measurement strategies used. This present study utilizes a short-term longitudinal design with bi-monthly assessments to address the following two hypotheses: a) Adolescents select friends on the basis of their substance use, and b) New friend substance use predicts changes in future use. French Canadian adolescents (n = 143) were interviewed on their friendship networks and substance use behaviors (e.g., tobacco, alcohol and marijuana) four times during a school year. Cross-lag panel models revealed that adolescents who use substances tend to select new friends who use. Moreover, once in the network, these new friends also contribute to changes in the adolescents' substance use. These findings are relevant to understanding the multiple functions of adolescent substance use.

Keywords

Peer relations; Friendships; Substance use

Early adolescence is a critical transition period for the initiation of substance use. Recent epidemiological data indicate that by age 15, 22% of north-American youth will have experimented with tobacco, 39% with alcohol, and 15% with marijuana (Johnston, O'Malley, Bachman, & Schulenberg, 2008). Similar rates of substance use are observed in other western countries (Hibell et al., 2004). Not only is early use of cigarettes and alcohol damaging to physical health, the use of these substances also increases the likelihood of subsequent illicit drug use (Chassin, Hussong, Barrera, Brooke, & et al, 2004). Given the myriad of risks associated with early use of cigarettes, alcohol, and marijuana, it is important from a prevention persepective to understand the proximal and contextual factors associated with early initiation of these behaviors. Most of our knowledge on these issues comes from longitudinal studies based on yearly (and occasionally bi-annual) assessments. We argue that short-term repeated assessments during the early adolescence period are necessary to fully capture individual differences in early growth in substance use and to reveal the

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contribution of proximal contextual predictors. In this study, we focus on one specific developmental process, the selection of substance using friends, and in turn, the potential for these new friends to influence subsequent use.

Friendships and substance use

Longitudinal research on substance use in early adolescence has identified having substance-using friends as a key proximal risk factor (e.g., Curran, Stice, & Chassin, 1997; Dishion, Capaldi, Spracklen, & Li, 1995; Dobkin, Tremblay, Mâsse, & Vitaro, 1995). A common approach for research in this area is to examine whether existing friendships at one point in time are associated with changes in individual behavior across some time period, typically with yearly time intervals. In early adolescence, smoking, drinking and marijuana use are new, emerging behaviors. In this paper, we argue that the selection of *new friends*, who bring with them their own characteristics and behaviors, could play a key role in the initiation and increase of new substance using behaviors.

New friendships, and moments of change in friendship networks, might provide opportunities and stimulus for behavioral change such as substance use initiation (Kiesner & Fassetta, 2009). For example, trying marijuana for the first time requires information on where to buy it and how to use it. Without this information, an adolescent, regardless of other characteristics, may not make the transition from non-user to user. For this transition to occur, a new friend with the required access and information may be required to facilitate the initiation.

It is also possible that substance use has a social function. If a child begins using tobacco, alcohol and marijuana, new social opportunities become available, such as new friendships and social contexts where use predominates (e.g., parties). Therefore the causal relation between substance use and new friendships may be inherently bi-directional. Friendships and peer activities afford opportunities to use, and in turn, substance use becomes an ‘admissions ticket’ of sorts for the development of new friends. In this sense, adolescents with fewer friends and marginal peer networks due to either personal characteristics (peer rejection, isolation) or contextual factors (moving, changing schools) may be more vulnerable to engaging in the bidirectional developmental dynamic. Examing the substance use of these new friends and the relation between the friends’ use and the youth’s own use over time thus becomes critical, because transitions in friendships are viewed as salient opportunities for change.

The need for multiple short term assessments

Accurate identification of new friendships requires longitudinal data. Most of the existing research on this issue uses a longitudinal cross-lag design with two waves of assessment spaced by a calendar year, or in rare instances, six months (e.g., see Engels, Bot, Scholte, & Granic, 2007 and also Knecht, 2007 for exceptions). This design is based on the assumptions that a) growth in substance use can best be observed in yearly intervals of time, and b) that changes in youths’ friendships that occur during this interval are not relevant. However, during the early phase of substance use initiation, behavior changes can occur quickly and increases in use could be observed within very short periods of time. For example, Dishion and Medici Skaggs (2000) conducted nine consecutive monthly phone interviews with young adolescents, asking about their use of different substances. The researchers observed rapid changes in substance use, referred to as “monthly bursts,” that covaried with concomitant changes in the youths’ affiliations with substance using peers. However, this study focused primarily on the monthly covariation between peer exposure and use, but not on time ordered effects of selection and influence. To examine this covariation as a bi-

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directional effect requires changes in the youth's friendship network along with changes in their substance use.

The notion that the covariation between substance use and changes in friendships is a bi-directional process is underscored by the fact that friendships are not highly stable during adolescence. Changes in the composition of friendship networks are common and are the result of the termination of existing friendships and the formation of new ones. Taken together, research has reported that adolescents appear to preserve fewer than 65% of their friendships over a given school year (Berndt & Hoyle, 1985; Berndt, Hawkins, & Hoyle, 1986; Degirmencioglu, Urberg, Tolson, & Richard, 1998). These studies have often employed measurements taken twice within a 6-month interval and may still underestimate the fluidity of youth friendships. Researchers have recognized that the structure of adolescent social relations changes even within periods as short as three weeks (Cairns, Leung, Buchanan, & Cairns, 1995). Chan and Poulin (2007) recently examined monthly changes in the composition of early adolescents' friendship networks using monthly phone interviews across a 5-month period. At each phone call, youths were asked to nominate all of their friends and provide specific information for each friend. On average, one-third of the participants' friendships were unstable. In other words, although a large proportion of friends were re-named across each assessment wave, a considerable proportion was not re-nominated across each assessment wave (being either newly formed or lost from one wave to another). Thus important fluctuations can be observed in friendship networks within short intervals of time. As a result of these changes in peer networks, it can be inferred that past research on adolescent substance use has been modeling longitudinal effects of friendships that may not have been maintained over the period of time studied.

The present research

The goal of this study was to examine how changes in substance use and changes in friendship network composition are interrelated. We use a short-term longitudinal design with multiple repeated assessments. Adolescents were surveyed four times during a single school year using a structured phone interview procedure. At each interview, they reported on their current friendship networks, their use of tobacco, alcohol and marijuana, and the use of these substances by their new friends. New friends were identified at each wave by comparing the current list with the previous list of nominated friends. The longitudinal associations between the adolescents' perception of their new friends' use of substances and the adolescents' own use is examined across the four assessments in order to test for possible bi-directional relations among these variables over time. We test whether, a) youth tend to select friends who show similar levels of substance use, and b) if these new friends predict change in the target youth's own use. The selection of these new friends might be partly based on their use of substances and the friends might, in turn, influence the target youth's behavior. Recent research on this issue emphasizes the importance of this bi-directional process (Dishion & Owen, 2002). A cross-lag panel model in an SEM framework is employed to achieve the study goals with respect to each form of substance use (e.g., tobacco, alcohol and marijuana).

Methods

Participants

The sample included 151 students (60% female; mean age = 14.55 years) from two middle schools. Most participants (82%) indicated that they were born in Canada. This sample, however, demonstrated variability with regards to native language, with 64% reporting that French was their native language; 11% Spanish; 6% Creole; and 19% some other language. This longitudinal study was initiated in Grade 8 and the data reported here were collected in

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Grade 9. The sample size was somewhat smaller because of attrition. The data reported here were collected with 143 adolescents.[1]

Letters were sent to all parents of participating middle schools. These materials explained the nature of the study and invited parents to sign a letter of informed consent if they agreed to have their child and themselves participate. They were informed that the study was longitudinal and involved repeated assessments.

Study design and procedures

Data collection occurred when adolescents were in Grade 9. Adolescents then took part in 4 brief phone interviews (October, December, Febuary and June). Phone interviews constitute a low-cost, minimally intrusive and efficient way of getting information from a target population. The telephone interview has been used as a method to assess friendship networks (Chan & Poulin, 2007) and substance use (Dishion & Medici Skaggs, 2000) on a monthly basis with adolescents. Chan and Poulin (2007) have shown that telephone interviews are an effective method for collecting longitudinal data across several time points, especially given the small attrition rate attained.

The interviews were conducted by trained undergraduate students. During the course of the study, supervision was regularly conducted to ensure homogeneity among interviewers. Interviews took place on weeknights, between 6:30 p.m. and 8:30 p.m and lasted approximately 10–15 min each. Several procedures were set in place in order to obtain privacy during the phone interviews. First, the interviewers had to fix an appointment with the adolescents to conduct each phone interview. We asked the participants to chose a moment when they think they could have privacy. Second, the interviewers asked the adolescents to be in a room by him/her self (if possible) and to make sure that no one else was listening on the phone line (cell phones were used when available). Third, all the behavioral questions (including substance use) were in a yes/no or frequency response format so that if a parent (or someone else) was in the same room and could overhear the adolescent's answers, he/ she could not make sense of these answers. Interviewers ended each interview by scheduling the following phone call. At the end of the school year, a gift certificate for the purchase of a compact disc was offered to participants who completed all the interviews. 95% of the participants completed all the interviews.

Measures

The same interview protocole was used in October, December, Febuary and June. There were two sections in the interview: a) friendship nominations and b) youth problem behavior. During the first phone interview, the interviewer told the adolescent that there were no good or bad answers to the questions. This instruction was provided to minimize social desirability of responses.

Friendship nominations

The interviewer proceeded by asking the participant to think about his/her most important and closest friends and to nominate up to 5 he or she had in any context, including school, the neighborhood, and activities outside of school. Adolescents generated their friends' names by free recall. In other words, they named their friends from memory and no cues or

[1]This was part of a cross-national study that also included a sample from northern Italy. Data were collected using identical procedures with the two samples. However, the hypotheses could not be tested with the Italian sample because substance use was too low to test the models at that age (although they did demonstrate increases in substance use at a later follow-up assessment). Thus, that sample is not included in the present article.

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lists of names were provided to them (Cairns et al., 1995). This method was employed to encourage participants to designate only the individuals they truly considered to be friends.

During the first interview (October), the interviewer had the complete list of nominated friends identified by the participant in a friendship network questionnaire completed during a school-based assessment in May of Grade 8. Therefore, the interviewer simply checked off the names of friends who were nominated again and added new names to the list. For friends who were nominated in the previous assessment, but were not nominated again in the present interview, the interviewer asked the participant to specify whether: (1) he or she had forgot to nominate the friend in question, or (2) they were not friends anymore. These prompts permitted us to clarify if a friendship was really over, or simply forgotten. For friends that were nominated for the first time, participants were asked to answer a series of questions for each of these new friends. These questions included whether the friend used cigarettes (yes or no), alcohol (yes or no), and marijuana (yes or no). The same procedure was followed in subsequent interviews, each time using an updated list of friends from the previous interview.

Using this information, the following variables were computed for each phone call: a) the number of new friends; b) the number of new friends who smoke; c) the number of new friends who drink; d) the number of new friends who use marijuana.

Youth substance use

The second part of interview focused on the youth's own problem behavior. Only the items pertaining to substance use were used in the current analyses. These items asked how often, in the previous month, the youth smoked cigarettes, drank alcohol (e.g., beer, wine, wine coolers and hard alcohol), and smoked marijuana. Responses were given on a 14-point scale, ranging from "0" to "41 or more times" in the last month.

Results

Descriptive statistics

Before testing our theoretical models, we examined, the base rates of substance use for the individual and their new friends. This was done to ensure that base rates of use were high enough to support the cross-lag analyses. Rates of own use and new friend use, for each substance, are reported in Table 1. At least 10% of youth and 10% of their new friends used alcohol, cigarettes or marijuana at each wave of data collection (and generally these percentages ranged from 20 to 50%).

Cross-lag panel analyses

To test our main hypotheses we conducted a series of cross-lag panel analyses in Mplus, in which we assessed the cross-sectional and predictive associations among the target adolescent's own use of cigarettes, alcohol, and marijuana, and the new friends' use of each substance. A separate cross-lag panel analysis was conducted for each substance (e.g., cigarettes, alcohol, and marijuana). In each case, the model included paths testing for, a) the stability of adolescents' own substance use, b) the stability in the number of new friends using each substance, c) cross-lag effects from adolescent use to friend use, d) cross-lag effects from friend use to adolescent use, e) within-time correlations between adolescent and friend use, and f) associations of two demographic covariates (e.g., sex, and family income) with all other study variables. Following the estimation of the full model, a final model was tested that incorporated any paths that the modification indices suggested were necessary to have adequate model fit. Standardized estimates are reported.

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Cigarettes

The final model for cigarette use (see Fig. 1a) provided a good fit to the data, $\chi^2(22) = 30.12$, p = n.s., CFI = .99, TLI = .98, RMSEA = .05. Adolescents' own cigarette use was highly stable, with estimates ranging from .75 to .87, p's < .001. Adolescent reports of the number of new friends who smoked cigarettes were less stable, with path estimates ranging from .06 (p = n.s.) to .29 (p < .01). Within-time and cross-lag effects between adolescent use and new friend use also emerged. Adolescent smoking and the number of new friends who smoke were significantly correlated at the first (estimate = .37, p < .01) and fourth (estimate = .08, p < .05) time points. Across time, cigarette use predicted the number of new friends who smoked ($estimate_{12}$ = .50, p < .001; $estimate_{23}$ = .33, p < .01). The number of new smoking friends at the second time point also predicted individual cigarette use at the third time point (estimate = .18, p < .05).

Alcohol

The final model for alcohol use (see Fig. 1b) also demonstrated an adequate fit to the data, $\chi^2(23) = 38.97$, p = .02, CFI = .95, TLI = .89, RMSEA = .07. Stability in alcohol use was observed for individual use—but not in the number of new friends who used alcohol. Standardized stability coefficients for adolescent use were between .33 and .59. Use seemed to become more stable as the school year progressed. Finally, the number of new alcohol-using friends at time 1 significantly predicted the number of new alcohol-using friends at time 2 (estimate = .18, p < 05).

Within-time and cross-lag effects between adolescent use and new friend use also emerged. Within time, adolescent use and new friend use were significantly correlated at all time points except the last. Across time, the number of new alcohol-using friends at the first time point predicted adolescents' own use at the second time point (estimate = .26, p < .01). Adolescent use at the second and third time points predicted the number of new friends who drank at the subsequent assessments ($estimate_{23}$ = .19, p < .05; $estimate_{34}$ = .37, p < .01).

Marijuana

The final model for marijuana use (see Fig. 1c) also demonstrated a good fit to the data, $\chi^2(21) = 28.64$, p = n.s., CFI = .99, TLI = .98, RMSEA = .05. Similar to alcohol, stability in marijuana use was observed for individual use—but not in the number of new friends who used marijuana. Standardized stability coefficients in adolescent use were between .69 and .77 (p's < .001). The only significant path between consecutive measures of new friend use was between the first and second time points (estimate = .18, p < .05). Within-time and cross-lag effects between adolescent use and new friend use also emerged. Within time, adolescent and new friend use were significantly and positively correlated at the first and second time points ($estimate_1$ = .43, p_1 < .001; $estimate_2$ = .24, p_2 < .001). Surprisingly, own use and the number of new using friends was negatively related at the fourth time point, $estimate_1$ = −.14, p_1 < .05. Across time, adolescents' own marijuana use always predicted the number of new friends who used marijuana at the subsequent time point (estimates = .33, .42, .49, p's < .01). The number of new friends at times 2 and 3 also predicted adolescent use at the subsequent time points ($estimate_{23}$ = .11, p_{23} < .05; $estimate_{34}$ = .17, p_{34} < .01).

Discussion

The current study examined short-term changes in early adolescents' substance use and friendship networks, and how changes in these two domains were interrelated. Bidirectional effects between adolescents' and their new friends' substance use were hypothesized, and found, using cross-lagged longitudinal analysis of bi-monthly data. Below, we summarize

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and interpret the findings of our analyses. We also comment on some limitations of our study.

New friends and substance use

The adolescents surveyed for this study reported having more new friends at the start of the school year, and their friendship network became more stable as the year progressed. At each phone interview, therefore, fewer new friends were reported. These findings suggest that researchers should not assume that adolescents' friendship networks are stable for even short periods of time. Many, if not most, adolescents are regularly incorporating at least one new friend into their networks—although friendship network composition does appear to stabilize somewhat as the school year progresses. This is consistent with findings reported by Chan and Poulin (2007) who used a similar methodology.

The cross-lag panel models tested the reciprocal associations between adolescent use of cigarettes, alcohol, and marijuana and the number of new friends who use each substance. These analyses revealed information regarding stability and change in adolescent and new friend use, as well as the directionality of the interrelations among these variables. For example, very high levels of stability in all forms of use were observed—especially for cigarette use. The greater stability of cigarette use may reflect the greater ease with which adolescents are able to access cigarettes, the greater number of social contexts in which cigarette smoking can occur, and the greater social acceptance of smoking behaviors among adolescents, relative to drinking and marijuana use. These factors, along with the highly addictive nature of cigarette smoking, may all contribute to its high level of stability. Still, stability of both alcohol and marijuana use were also high. These findings indicate that adolescents who begin to use these substances are likely to continue to do so. Less stability was evident in the substance use behaviors of the adolescents' new friends – at least according to the adolescents' reports of their friends' behaviors. Only the number of new using friends from the first to second time points revealed evidence of stability for the three substances, suggesting that adolescents who made new using friends were likely to continue to affiliate with new using friends within this time period.

Because we had information regarding the new friends' substance use habits as well as the adolescents' own use, we were able to examine whether adolescents who use substances tend to select new friends with similar patterns of use. In general, our findings tend to support this hypothesis. Overall, the pattern of results shows that, across the school year, the level of selection clearly increases for alcohol and marijuana use, but decreases for cigarette use. These differences across substances likely depend on changes in absolute levels of substance use, as well as normative attitudes towards these substances. Previous longitudinal studies with annual (or bi-annual) assessments have also shown that selection of new friends was based on similarity on substance use (e.g., Bauman & Ennett, 1996; De Vries, Candel, Engels, & Mercken, 2006; Engels, Vitaro, Blokland, de Kemp, & Scholte, 2004). The current study showed that this process also takes place within short intervals of time. As recently highlighted by several authors (Arnett, 2007; Engels et al., 2007), the process of friendship selection must be carefully investigated in order to clarify the role of peers in adolescent substance use.

Once in the network, these new friends could also contribute to change of the adolescents' substance use behavior. Indeed, there was some evidence, for each of the substances studied, that the incorporation of new substance-using friends into the network could influence adolescent use at subsequent time points. For cigarette use, the number of new friends who smoked predicted the number of cigarettes smoked by the target adolescent from the second to the third time points. For alcohol, the number of new friends who drank alcohol at the first time point positively predicted the target adolescent's alcohol use at the second time

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point, but no relation was observed between the second and third time points. For marijuana use, evidence for the influence model was observed from the second to the third and third to the fourth time points. Obviously, the small amounts of variance that remained in the adolescent use variable may have constrained our ability to predict such use. More consistent patterns of influence may be evident when using larger samples of youth. These findings are consistent with other studies suggesting that selection as well as influence processes play an important role in adolescent substance using behavior (e.g., Kirke, 2004; Mercken, Snijders, Steglich, Vartiainen, & de Vries, 2009).

At a theoretical level, much research has defined selection and influence as separate processes. However, it is important to consider the possibility that, by increasing opportunity to engage in and continue specific behaviors (including substance use), selection may also be a component of influence, even if it does not lead to an *increase* in behavior. Thus, substance-using individuals may select substance-using friends, which then leads to high levels of individual behavioral stability. In this case, *stability* in youth substance use would need to be considered one aspect of peer influence.

The bi-directional longitudinal relationship between early adolescent substance use and substance use within friendship networks suggests two challenges for prevention and treatment. For prevention, it is clear that there is a process of 'niche finding' during early adolescents (Scarr & McCartney, 1983), or social shopping (Patterson, Reid, & Dishion, 1992), where young people are concerned about finding a social context to which they might 'belong'. Considering the importance of this "niche finding", it is unfortunate that most prevention efforts fail to actively provide venues for building peer networks that are organized around positive activities not involving substance use. Thus, contextual interventions that directly target adolescent activities in the contexts of peers may have influences on reducing early onset substance use, and perhaps, may be more economical to implement. Second, treatment programs aimed to reduce and eliminate adolescent drug use focus primarily on the pharmacological effects of the drugs. However, it is clear that substance use at this age is a powerful tool for accessing and acquiring a peer network. Thus individuals who stop using drugs may need support around the use of other strategies for finding peer networks that promote healthy lifestyles and that are positively reinforcing.

Limitations and future studies

The present study has important limitations that may affect the interpretability of our findings. First, all data, including those regarding the new friends' substance use, were collected from the target adolescent. Although adolescents are usually reliable reporters of their own substance use (Dolcini, Adler, & Ginsberg, 1996), their ability to accurately report on their friends' substance use is more questionnable (Iannotti, Bush, & Weinfurt, 1996). This limitation may be mitigated somewhat by our use of single-item measures of friends' use. In other words, adolescents were asked only if their friends used each substance at all – the adolescents were not asked to estimate the frequency or quantity of their friends' use. However, this binary indicator of friend use is somewhat limited in allowing us to understand if these friends are patterned/heavy users, experimental users, etc. Future studies should attempt to assess friends' use directly by involving the friends in the study as participants. This will certainly present many challenges as friendships change frequently, and adolescent friendships frequently come from various non-school contexts, especially among high-risk youth (Kiesner, Kerr, & Stattin, 2004; Kiesner, Poulin, & Nicotra, 2003).

Second, individual rates of use tended to be highly stable – especially for cigarette use. High levels of stability typically result in difficulties explaining change, because there is little change to explain. We nonetheless were able to observe multiple significant predictive associations between friends' use and adolescents' use at subsequent time points.

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Third, because of time constraints inherent in using a telephone interview procedure for collecting data, we only collected substance use data for new friends in the adolescents' social networks—not for those friends who were consistently reported across all time points. Therefore, we could not assess whether or not the friendship network, as a whole, tends to become more homogenous with respect to substance use over time. Still, our study did reveal that, especially for marijuana use, adolescents who use tend to become involved with new friends who also report substance use (and, conversely, adolescents who do not use substances are more likely to befriend other youth who do not use). It is important to keep in mind that our exclusive focus on new friendships is likely to underestimate influence effects in the overall contribution of friendships to adolescent substance use. In fact, the influence of stable existing friendships is not included in our models. Future studies should examine whether the contribution of stable friendships in adolescent substance use also vary within short intervals of time. The influence of old friends and new friends in adolescent substance use should also be directly compared (Kiesner & Fassetta, 2009).

The associations between friendship selection and adolescent substance use should also be examined at moments where instability in friendship network is likely to be high such as school transition (Hardy, Bukowski, & Sippola, 2002). These processes should also be evaluated earlier in development, so as to better examine the onset of use. Finally, other methodological approaches could be used to examine the co-evolution of friendship networks and adolescents substance use. For instance, the actor-oriented approach developed by Snijders and colleagues allows one to separate the contribution of selection and influence processes and examine alternative mechanisms such as triad effects in the context of social network data (Burk, Steglich, & Snijders, 2007; Steglich, Snijders, & Pearson, in press). However, social network data is often limited to school contexts, and it is often true that new friendships occur outside of school.

Conclusions

This study examines the interrelations among adolescent substance use and their new friends' use at multiple time points over the course of a single school year. We showed that changes could be observed in adolescents' use of substances as well as in friendship networks within short periods of time. Substance use appears to play a role in adolescents' choices of new friends, as illustrated by the cross-lag effects found is this study for cigarettes, alcohol, and marijuana. Moreover, once the friendships are established, these new friends also contribute to changes in the adolescent' use of substances. Finally, at the methodological level, the very low rate of missing data in the current study support the use of a phone interview procedure in conducting short-term longitudinal assessment with multiple time points.

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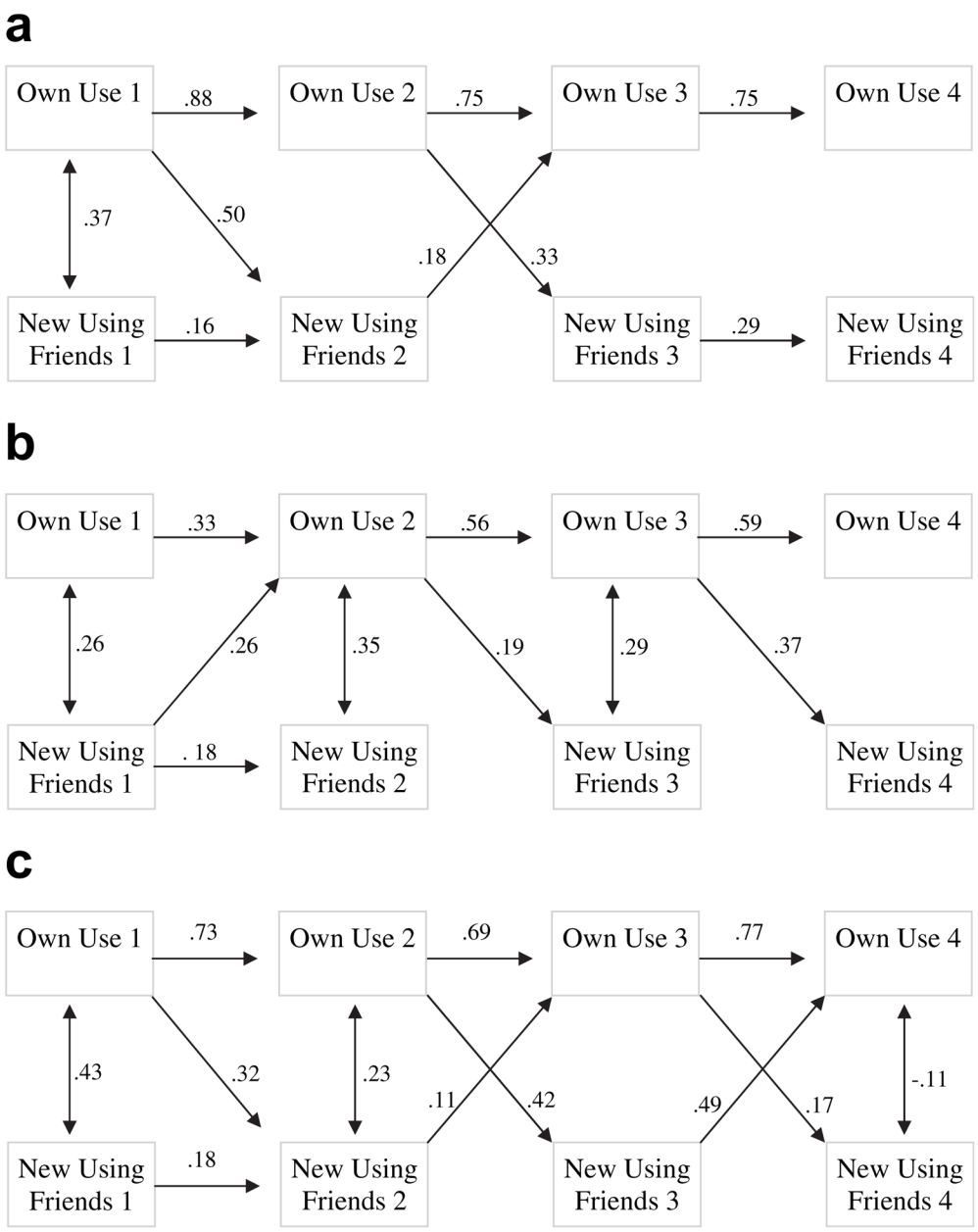

Fig. 1.
a. Cigarettes; b. Alcohol; c. Marijuana.

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Table 1

Means (and standard deviations) for all the study variables.

	October	December	February	June
Own Use				
Cigarettes	2.64 (5.79)	2.00 (5.30)	2.08 (5.56)	2.47 (5.49)
Alcohol	1.70 (3.09)	1.61 (3.04)	1.45 (2.79)	1.89 (3.08)
Marijuana	1.57 (3.44)	1.60 (3.57)	1.47 (3.38)	1.45 (3.39)
Number of new friends	1.69 (1.27)	.77 (.82)	.58 (.90)	.40 (.76)
Number of new using friends				
Cigarettes	.37 (.79)	.20 (.45)	.14 (.44)	.10 (.35)
Alcohol	.54 (.91)	.25 (.54)	.23 (.60)	.20 (.50)
Marijuana	.44 (.85)	.36 (.53)	.22 (.56)	.15 (.45)