Stability of Children's and Adolescents' Friendships: A Meta-Analytic Review

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Decades of research has assessed the benefits of children's and adolescents' friendships, but friendships among youth often dissolve within a matter of months or years. Studies have investigated predictors and consequences of friendship stability with the expectation that, in order for friendships to have a positive or negative influence on youth, they need to be enduring. However, differing methodology used to assess friendships affects the proportion of stable friendships observed, which may confound conclusions. In this meta-analysis a number of methodological and substantive study comparisons were made to assess their contribution to differences in effect sizes across studies of friendship stability. Evaluation of the impact of methodological moderators can inform whether there are differences in methodology that can significantly bias effect sizes of friendship stability. Results suggest that time lag between measurement occasions and presence or absence of a school-year transition impacts friendship stability. However, despite differences in methodology, most differences investigated did not significantly impact friendship stability. This supports the validity of the conclusions drawn from literature on friendship stability.

The stability of friendships is an important consideration in friendship research. For friendships to impact young people in either positive or negative ways, the friendship may need to be sustained over time (Poulin & Chan,

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2010; Savin-Williams & Berndt, 1990). A number of studies have evaluated differences between children or adolescents in stable friendships and unstable friendships to better understand characteristics of children and adolescents and their friendships that are associated with friendships' endurance. However, methodological differences between studies may additionally impact observations of friendship stability. This meta-analysis evaluates conclusions about individual factors thought to affect friendship stability and focuses on the effects of methodological differences that may impact effect sizes of friendship stability across studies that include friendship stability as a focal or peripheral component.

Friendships, uniquely voluntary dyadic relationships of affection (Furman, 1982), are an important part of child and adolescent development and have been of interest to researchers in a number of fields, including psychology, sociology, and human development, for over half a century. There has been a long-standing interest among researchers in the "features, functions, and behavioral manifestations of friendship relations" (Newcomb & Bagwell, 1995, p. 308). In addition to understanding characteristics of friendships, there is also an interest in the dynamic course of friendships. Although dyadic relationships are often considered to be enduring contexts and are treated as such in research, in the case of children's and adolescents' friendships, building evidence suggests that many friendships are not stable over time. Friendships begin through initiation and are maintained for some time, but most friendships discontinue over time (Furman, 1982). For friended youth, in order for friendships to impact young people, whether through companionship and intimacy or through less desirable peer influence processes, there is an expectation that friendships need to be enduring (Poulin & Chan, 2010; Savin-Williams & Berndt, 1990). There is an expectation that stable friendships represent an inherently different developmental context for youth than do unstable friendships in that the factors that affect stability and dissolution (e.g., quality and friend influence) affect development, as well, both directly and indirectly through the friendship context. Studies that investigated friendship-level, individual, developmental, and contextual factors with the potential to affect friendship stability have been previously reviewed (Poulin & Chan, 2010).

Generally, characteristics associated with friendship stability are thought to be positive (Savin-Williams & Berndt, 1990). Researchers have investigated differences between youth in stable and unstable friendships so as to better understand the consequence of the inability to maintain close peer relationships (J. G. Parker & Seal, 1996). It is expected that a change in friendship status will align with other relationship characteristics, as well. For instance, one study compared participants' descriptions of friendships

that were sustained to those that dissolved and found differences in the way participants described characteristics of sustained and dissolved friendships (Berndt, Hawkins, & Hoyle, 1986).Youth who have stable friendships tend to be in higher quality relationships (Schneider, Fonzi, Tani, & Tomada, 1997), evidenced by higher participant ratings of companionship, help, security, and closeness within friendships that were stable over time (Bukowski, Hoza, & Boivin, 1994), which present positive peer contexts for interpersonal development. Among a camp sample, youths who made new friends and *maintained* those friendships were less lonely than their peers who made friends but also chronically lost friends (J. G. Parker & Seal, 1996). However, in the case of peer influence, stable friendships with peers who have a negative influence on children's or adolescents' development may not be positive contexts for development overall. For example, a peer influence effect has been observed among aggressive youth; maintenance of friendships with antisocial youth provides a prolonged context of exposure to antisocial deviancy training that can influence a child's or an adolescent's own aggression (Poulin, Dishion, & Haas, 1999). In such instances, stable friendships may be harmful, and it may benefit youth to discontinue relationships with antisocial peers.

The previous narrative review of friendship stability (Poulin & Chan, 2010) included suggestions that could benefit from quantitative validation. First, the authors concluded that about 50% of children's and adolescents' friendships are stable. Second, the authors concluded that girls may have less stable friendships than do boys (Benenson & Christakos, 2003), although gender differences in friendship stability across studies have not been consistent (Poulin & Chan, 2010). The authors also determined that developmental age affects friendship stability (Poulin & Chan, 2010). As children develop, their conceptions of friendships become more mature. Adolescents, in comparison to young children, base their friendships on personal qualities such as intimacy and loyalty within friendships (Gifford-Smith & Brownell, 2003; Savin-Williams & Berndt, 1990). It is expected that after a period of interpersonal instability among youth around early adolescence, older adolescents' changing conceptualizations of friendships influence their participation in more intimate and long-lasting friendships (Poulin & Chan, 2010).

Although these conclusions are theoretically informed, methodological differences between studies may inhibit strong conclusions from being drawn from studies of friendship stability (Poulin & Chan, 2010). Studies that employed different methodologies to assess and compute effect sizes of friendship stability are listed in Table 1. Methodological choices made in assessing and calculating friendship stability are not arbitrarily chosen

Table 1. Study characteristics and mean effect size from each study

No.	Study	*N*	Prop. boys	*M* age	Prop. minority	Continent	List or free recall	Number could nom.	Same-gender noms.	Limited to 1 friend	Nom. pool	Individual or sample stability	Time lag (months)	School-year transition	Recip.	Best friends or close/all friends	Pub.	*M* effect size (logit)	*M* effect size (prop.)
1	Aboud, Mendelson, & Purdy, 2003	117	.51	9.32	NR	NR	List	Unlimited	Same gender	No	Classroom (+ outside classroom)	Individual	6	No	No	Both	Yes	−0.36	0.41
2	Abraham, 2008	143	.41	12.93	.38	NA	Free recall	3	Same gender	No	Anywhere	Individual	5	No	No	Close/all	No	−0.71	0.33
3	Allen, Porter, & McFarland, 2006; Marsh, Allen, Ho, Porter, & McFarland, 2006	164	.47	13.40	.42	NA	Free recall	Unlimited	Same gender	Yes	Anywhere	Individual	12	Yes	No	Best	Yes	−0.65	0.34
4	Alliès-Jordel, Fourdrinier, Roux, & Schneider, 2002	164	.52	8.55	NR	E	NR	Unlimited	Anyone/ NR	No	Classroom	Individual	5	No	Yes	Close/all	Yes	0.15	0.54
5	Baerveldt, Völker, & Van Rossem, 2008	859	.52	15.50	NR	E	NR	12	Anyone/ NR	No	Grade	Sample	12	Yes	No	Best	Yes	−0.36	0.41
6	Barry & Wentzel, 2006	208	.42	14.49	.10	NA	List	Unlimited	Same gender	No	Grade	Individual	12	No	Yes	Both	Yes	−0.34	0.41
7	Benjamin, Schneider, Greenman, & Hum, 2001	578	.45	8.50	NR	Asia; NA	List	Unlimited	Anyone/ NR	Yes	School	Individual	12	Yes	Yes	Best	Yes	0.03	0.51
8	Berger & Dijkstra, 2013	273	.52	11.00	NR	SA	Free recall	6	Anyone/ NR	No	Classroom	Sample	12	Yes	No	Close/all	Yes	−0.72	0.33
9	Berndt, Hawkins, & Jiao, 1999	101	.52	NR	.01	NA	Free recall	Unlimited	Anyone/ NR	No	Anywhere	Sample	6.5	Yes	No	Close/all	Yes	−0.04	0.49
10	Berndt & Hoyle, 1985, Study 1	19	.58	10.08	.10	NR	Free recall	Unlimited	Same gender	No	Anywhere	NR	5	No	Yes	Best	Yes	0.17	0.54

Table 1. Study characteristics and mean effect size from each study (*Continued*)

No.	Study	*N*	Prop. boys	*M* age	Prop. minority	Continent	List or free recall	Number could nom.	Same-gender noms.	Limited to 1 friend	Nom. pool	Individual or sample stability	Time lag (months)	School-year transition	Recip.	Best friends or close/all friends	Pub.	*M* effect size (logit)	*M* effect size (prop.)
11	Berndt & Hoyle, 1985, Study 2	19	.49	13.67	.10	NR	Free recall	Unlimited	Same gender	No	Anywhere	NR	5	No	Yes	Best	Yes	0.74	0.68
12	A. Bowker, 2004	94	.51	12.00	NR	NA	List	Unlimited	Same gender	No	Classroom	Individual	5.5	No	Yes	Both	Yes	0.12	0.53
13	Bray, 2004	208	.46	14.10	.06	NA	NR	1	Same gender	No	NR	Individual	12	Yes	Yes	Best	No	−0.31	0.42
14	Brendgen, Vitaro, & Bukowski, 2000	152	.49	12.08	.10	NA	Free recall	4	Anyone/ NR	No	Classroom	Individual	12	Yes	Yes	Best	Yes	−2.20	0.10
15	Brendgen, Vitaro, & Turgeon, 2004; Brendgen, Vitaro, Turgeon, & Poulin, 2002	819	.48	10.30	.20	NA	List	5	Anyone/ NR	No	School	Individual	6	No	Yes	Best	Yes	0.00	0.50
16	Buchanan, 1995; Cairns, & Cairns, 1994; Neckerman, 1992, Study 1	156	.47	17.20	.15	NA	Free recall	Unlimited	Anyone/ NR	No	Anywhere	Both	12; 24; 36; 48; 60; 72; 84; 96; 108	Yes	Both	Close/ all	Both	−1.95	0.12
17	Chan & Poulin, 2007, 2009	102	.5	12.60	NR	NA	Free recall	Unlimited	Anyone/ NR	No	Anywhere	Individual	12	No	No	Close/ all	Yes	1.15	0.76
18	Christakos, 1997	56	.47	8.19	.10	NA	Both	Unlimited	Same gender	No	Classroom; NR	Individual	2.5; 5	No	No	Close/ all	No	−1.72	0.15
19	de la Haye, Robins, Mohr, & Wilson, 2013, Study 1	222	.53	13.60	NR	Aus	Free recall	Unlimited	Anyone/ NR	No	Grade	Individual	36	No	No	Best	Yes	0.69	0.67
20	de la Haye, Robins, Mohr, & Wilson, 2013, Study 2	156	.55	13.70	NR	Aus	Free recall	Unlimited	Anyone/ NR	No	Grade	Individual	36	No	No	Best	Yes	0.24	0.56

No.	Study	*N*	Prop. boys	*M* age	Prop. minority	Continent	List or free recall	Number could nom.	Same-gender noms.	Limited to 1 friend	Nom. pool	Individual or sample stability	Time lag (months)	School-year transition	Recip.	Best friends or close/all friends	Pub.	*M* effect size (logit)	*M* effect size (prop.)
21	Değirmencioğlu, Urberg, Tolson, & Richard, 1998; Urberg, Değirmencioğlu, & Pilgrim, 1997	353	.51	12.82	.75	NR	Free recall	1;10	Anyone/ NR	No	School	Individual	6	No	No	Both	Yes	0.32	0.58
22	Değirmencioğlu, Urberg, Tolson, & Richard, 1998	469	.50	12.34	.08	NR	Free recall	1; 10	Anyone/ NR	No	School	Individual	6	No	No	Both	Yes	0.45	0.62
23	Dijkstra et al., 2010	136	1.00	13.00	NR	NA	List	Unlimited	Anyone/ NR	No	Grade	Sample	12	Yes	No	Best	Yes	0.59	0.64
24	Ellis & Zarbatany, 2007	605	.8	12.07	.09	NA	List	Unlimited	Same gender	No	Grade	Individual	3	No	Yes	Close/ all	Yes	0.36	0.59
25	Epstein, 1983	3,519	.5	12.50	NR	NR	NR	3	Anyone/ NR	No	Grade	Individual	12	Yes	No	Best	Yes	−1.73	0.15
26	Flashman, 2009, 2012; Rude & Herda, 2010	4,592	.43	14.50	.15	NA	List	10	Anyone/ NR	No	School	Individual	7; 14	Yes	No	Close/ all	Yes	−0.98	0.27
27	Fonzi, Schneider, Tani, & Tomada, 1997	187	.50	8.00	NR	E	List	2	Same gender	Yes	School	Individual	6.5	No	Yes	Close/ All	Yes	0.04	0.51
28	Goodwin, Mrug, Borch, & Cillessen, 2012	230	.49	11.00	.36	NA	List	Unlimited	Anyone/ NR	No	Grade	Individual	12	Yes	Yes	Best	Yes	−0.21	0.45
29	Hafen, Laursen, Burk, Kerr, & Stattin, 2011; Popp, Laursen, Kerr, Stattin, & Burk, 2008	777	.47	14.62	NR	E	Free recall	3	Same gender	Yes	Anywhere	Individual	12; 24	Yes	Yes	Close/ all	Yes	−0.56	0.36

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Table 1. Study characteristics and mean effect size from each study (*Continued*)

No.	Study	*N*	Prop. boys	*M* age	Prop. minority	Continent	List or free recall	Number could nom.	Same-gender noms.	Limited to 1 friend	Nom. pool	Individual or sample stability	Time lag (months)	School-year transition	Recip.	Best friends or close/all friends	Pub.	*M* effect size (logit)	*M* effect size (prop.)
30	Hallinan & Brandon, 1978; Tuma & Hallinan, 1979	4,075	.50	10.00	.88	NA	List	Unlimited	Anyone/ NR	No	Classroom	Sample	1.5	No	No	Both	Yes	0.93	0.72
31	Hardy, Bukowski, & Sippola, 2002	66	.50	11.00	NR	NA	List	8	Anyone/ NR	No	Classroom	Individual	4; 5; 6; 7	Both	Both	Close/ all	Yes	−0.53	0.37
32	Jugert, Noack, & Rutland, 2013	119	.48	10.58	.31	E	List	Unlimited	Same-gender	No	Classroom	Sample	5	No	Yes	Close/ all	Yes	1.00	0.73
33	Kandel, 1978	1,914	.45	15.53	.19	NA	NR	1	Anyone/ NR	No	School	Individual	5.5	No	Both	Best	Yes	0.84	0.70
34	Keefe & Berndt, 1996	297	.35	13.67	.05	NR	Free recall	3	Anyone/ NR	No	NR	NR	5	No	No	Best	Yes	−0.04	0.49
35	Kelley, 1966	105	.00	14.00	NR	NA	NR	Unlimited	Same gender	No	Anywhere	Sample	12; 24; 36	Yes	Yes	Close/ all	No	1.28	0.78
36	Lee, Howes, & Chamberlain, 2007	350	.51	8.42	.43	NA	List	Unlimited	Anyone/ NR	No	Grade	Sample	4; 8	No	Yes	Best	Yes	−1.14	0.24
37	McAdams & Losoff, 1984	52	.50	9.96	.00	NA	Free recall	Unlimited	Anyone/ NR	No	No	Individual	7	Yes	No	Best	Yes	0.08	0.52
38	McChristian, Ray, Tidwell, & LoBello, 2012	111	.53	9.85	.81	NA	List	Unlimited	Same gender	Yes	Classroom	Individual	6	No	No	Close/ all	Yes	1.15	0.76
39	Mooney, 2007	234	.36	11.64	.29	NA	Free recall	3	Same gender	Yes	NR	Individual	12	Yes	Yes	Best	No	1.20	0.77
40	Neckerman, 1992, Study 2	457	.48	17.40	.29	NR	Free recall	Unlimited	Anyone/ NR	No	Anywhere	Individual	12; 24; 36; 48	Yes	Yes	Close/ all	No	−1.54	0.18

No.	Study	*N*	Prop. boys	*M* age	Prop. minority	Continent	List or free recall	Number could nom.	Same-gender noms.	Limited to 1 friend	Nom. pool	Individual or sample stability	Time lag (months)	School-year transition	Recip.	Best friends or close/all friends	Pub.	*M* effect size (logit)	*M* effect size (prop.)
41	Normand et al., 2013	46	.75	7.60	.09	NA	NR	1	Anyone/ NR	No	NR	Individual	6	NR	Yes	Best	Yes	2.35	0.91
42	R. J. Parker, 2011; Tomada, Schneider, de Domini, Greenman, & Fonzi, 2005	262	.50	7.50	NR	E	List	6	Anyone/ NR	No	Classroom	NR	6; 12; 18	No	Yes	Both	Both	0.04	0.51
43	Poulin & Boivin, 1999	149	1.00	10.5	.00	NA	List	1	Anyone/ NR	No	Classroom	Individual	6	No	Yes	Best	Yes	−0.15	0.46
44	Poulin & Chan, 2004	236	.40	11.00	NR	NA	Free recall	10	Anyone/ NR	No	Anywhere	Individual	6; 12; 24; 36	Yes	No	Close/ all	No	−1.33	0.21
45	Prinstein, Borelli, Cheah, Simon, & Aikins, 2005	182	.50	12.13	.13	NR	List	1	Anyone/ NR	No	Grade	Individual	11	Yes	Yes	Best	Yes	0.22	0.55
46	Rabaglietti, Vacirca, Zucchetti, & Ciairano, 2012	115	.49	7.09	.09	E	Free recall	1	Anyone/ NR	No	Anywhere	Individual	9	No	No	Close/ all	Yes	−0.26	0.43
47	Rizzo, 1989	143	.50	6.56	NR	NA	Neither	Unlimited	Anyone/ NR	No	Classroom	Sample	1	No	Yes	Close/ all	Yes	−1.18	0.24
48	Schneider, Fonzi, Tani, & Tomada, 1997	368	.49	8.50	NR	E, NA	List	Unlimited	Anyone/ NR	Yes	School	Individual	6.5	No	Yes	Close/ all	Yes	0.63	0.65
49	Schneider, Woodburn, del Toro, & Udvari, 2005	868	.49	13.00	NR	NA	List	Unlimited	Anyone/ NR	Yes	School	Individual	6	No	Yes	Best	Yes	0.58	0.64
50	Sebanc, Kearns, Hernandez, & Galvin, 2007	150	.58	5.08	.79	NA	List	5	Anyone/ NR	No	Classroom	Sample	3.5	No	Yes	Close/ all	Yes	−0.19	0.45

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Table 1. Study characteristics and mean effect size from each study (*Continued*)

No.	Study	*N*	Prop. boys	*M* age	Prop. minority	Continent	List or free recall	Number could nom.	Same-gender noms.	Limited to 1 friend	Nom. pool	Individual or sample stability	Time lag (months)	School-year transition	Recip.	Best friends or close/all friends	Pub.	*M* effect size (logit)	*M* effect size (prop.)
51	Stone, 2013; Stone & Gibb, 2013	163	.49	14.15	NR	NA	List	Both	Anyone/ NR	No	Grade	Both	6	No	Both	Both	No	0.01	0.50
52	Stump, 2012	374	.52	11.55	NR	NA	NR	18	Anyone/ NR	No	Grade	Sample	6	No	No	Close/ all	No	0.08	0.52
53	Sun, 1995	154	.45	10.20	NR	Asia	Free recall	Unlimited	Anyone/ NR	No	School	Sample	24	Yes	Both	Close/ all	No	−0.99	0.27
54	Troutman & Fletcher, 2010	341	.47	10.34	.37	NA	Free recall	10	Anyone/ NR	No	Anywhere	Sample	12	Yes	No	Close/ all	Yes	−0.01	0.50
55	Van Workum, Scholte, Cillessen, Lodder, & Giletta, 2013	426	.48	15.78	.08	E	NR	20	Anyone/ NR	No	Grade	Sample	6	No	No	Close/ all	Yes	0.69	0.67
56	Wojslawowicz, Rubin, Burgess, Booth-LaForce, & Rose-Krasnor, 2006	804	.50	10.33	.42	NA	Free recall	Unlimited	Same gender	No	School	Individual	7	No	Yes	Best	Yes	−0.51	0.38
57	Yugar, 1999	53	.44	7.00	.04	NA	List	1; 3	Anyone/ NR	No	Classroom	Individual	1	No	Yes	Best	No	0.58	0.64

Note. Prop. = proportion; nom(s). = nomination(s); recip. = reciprocity; pub. = published; NR = not reported; NA = North America; E = Europe; SA = South America; Aus = Australia. *Both* refers to both levels of study comparison reported within a single study.

but instead based on theory and practicality. For example, researchers may believe that requiring participants to list their best friends separately from other friends will identify friendships that are qualitatively different than others (A. Bowker, 2004); or, to investigate the effect of transitions on friendship stability, the study may be strategically conducted before and after school-year transitions (Hardy, Bukowski, & Sippola, 2002). Although these methodological decisions are made to best test specific processes in friendship research, without knowing the effects on friendship stability, some methods might unnecessarily burden child and adolescent participants or, although theoretically plausible, do not contribute to the differences predicted by researchers. Among the different techniques used to assess the stability of friendships are listing friends, interviews, and sociometric nominations. Some methods require participants to list the names of their friends from memory, referred to as free recall, whereas others provide a list of names from which participants can identify their friends. This latter method may lead participants to overidentify friendships; children tend to select more people as friends when they are provided with a list than when they select only the friends most salient to them in their minds (Marsden, 2005). Relatedly, to prevent this overreporting and to facilitate model estimation (and sometimes for undisclosed reasons), some investigators have limited the number of friendships participants can report, because investigators expect that limiting the number of individuals that participants can nominate would not bias the effects since most participants do not reach the limit in their nominations (Flashman, 2012). The number of friends that participants are asked to nominate varies across studies. Further, some studies limit nominations to a single friendship. Most children's and adolescents' friendships are with peers of the same gender (Hartup, 1989; Rose & Rudolph, 2006). Some researchers limit their participants' nominations to same-gender peers. Cross-gender friendships with peers would not be recognized in these situations, and participants may feel compelled to identify friends of the same gender who may not actually be their best or closest friend or friends.

Researchers may also limit their participants' nomination pool out of practicality. Requiring participants to, for example, circle the name of every friend in their entire school could be burdensome. Therefore, researchers may choose to limit nominations to the classroom or grade—that is, a group the participants likely have the most contact with during the school day (e.g., Brendgen, Vitaro, Doyle, Markiewicz, & Bukowski, 2002). Being maximally familiar with peers in the particular context has been provided as the reason why certain times in the school year are chosen for data collection (e.g., Barry & Wentzel, 2006), and this approach

could apply to nominations of peers, as well (Lee, Howes, & Chamberlain, 2007). The size of the nomination pool (classroom, grade, or school), however, may impact who and how many friends children select. Similar to the limitations that arise in the requirement of same-gender-only nominations, a limited nomination pool of any kind may lead to a representation of friendships that is not true to the participants' actual friendships, because some individuals may have friendships outside of that pool that are not recorded.

After data collection, researchers have also used different methods to calculate their effect size of stability. Some calculated the stability of friendships for each individual and averaged this number, whereas others presented the overall stability of the group. Examples of this latter type of study are those that used stochastic actor-based models for network dynamics to analyze friendship networks (e.g., Dijkstra et al., 2010; van Workum, Scholte, Cillessen, Lodder, & Giletta, 2013). In these studies, the number of ties that are stable, unstable, and newly formed in the entire network are examined.

The number of waves of data collected from which to garner information about friendship stability varies across studies, and the lag between measurement occasions is likely to influence friendship stability, as well (Poulin & Chan, 2010). Especially when data are collected before and after school transitions, which may separate peers who once shared a particular context (Savin-Williams & Berndt, 1990), there may be a lower expectation of stable friendships. Because of the expectation that contextual transitions may affect friendship stability, studies have specifically investigated how these types of structural changes impact friendship stability and change (e.g., Hardy et al., 2002).

How friendships are defined has the potential to impact effect sizes of friendship stability. One difference that varies throughout literature on friendship is whether the requirement of reciprocity be met in defining a friendship. In a reciprocal friendship, each participant mutually nominates the other as a friend; in unilateral friendships, the nomination is made, but there is no requirement of reciprocity. Within their reporting, some studies differentiate between these two types of friendships (e.g., Buchanan, 1995; Kandel, 1978; Sun, 2005), in line with the opinion that reciprocity is what sets friendships apart from unilateral feelings of admiration (Rubin, Bukowski, & Parker, 2006). But others that consider only a single type of friendship within their analyses may not make any differentiation or account for whether and how this might impact the conclusions that can be drawn from the results. Definitions of friendships have also varied in intensity of friendship. Some investigators required participants to report on best

friendships and others on general friendships or other close friendships; sometimes both were named by participants in the study.

In general, friendship nomination procedures that limit who participants may nominate are expected to bias estimates of friendship stability negatively because the criteria for nominating and maintaining a friendship are more stringent under these conditions. For example, as described in detail by Poulin and Chan (2010), when reciprocity is required, the level of friendship stability may be underestimated. First, fewer friendships may be recognized at the first wave of data collection, and the requirement that participants nominate one another at both waves, particularly if they are limited to the number of friends they can nominate, may result in unrealistic effect sizes of stability. Friendships have additionally been observed to downgrade from best friendships to close friendships (J. C. Bowker, 2010), but, under the strict requirement of the label of best friendship, stable, but downgraded, friendships may be underestimated. Whether the decision to use a nomination-limiting method, such as those reviewed, biases effect sizes of friendship stability toward more or less stability is currently unknown. Further, if methodological differences do bias effect sizes of friendship stability, it is important to not compare findings from these studies with this differing methodology to each other.

In addition to evaluating conclusions about the mean percentage of stable friendships among youth, gender, and age differences in friendship stability, the current meta-analytic review added to previous research on friendship stability by statistically evaluating the effects of methodological differences on friendship stability among youth; this meta-analysis compliments and builds upon the previous narrative review of friendship stability by evaluating conclusions about predictors of stability, testing the potential methodological cofounds described in Poulin and Chan's (2010) article, and including many published and unpublished studies. There are benefits to examining some of these factors quantitatively, as well. Quantitative evaluation of the effects of methodological differences among studies of friendship stability can support or refute conclusions about substantive predictors of friendship stability from studies with differing methodology. It is important to understand these potentially confounding methodological factors, including (a) which methodological factors are associated with variability in friendship stability and (b) whether there is variability in individual and methodological predictors of friendship stability after accounting for other methodological factors that can impact friendship stability. Further, the current meta-analysis included gray (i.e., unpublished) literature. This decreased what is referred to as publication bias, which may have been

present when only published studies, which have systematically different effect sizes, were included in the original review (Hopewell, Clarke, & Mallett, 2006; Rothstein, Sutton, & Borenstein, 2006). We analyzed publication effects, including the effect of year of publication and the effect of publication bias. Results of the analysis of effect of year of publication and publication bias (whether a study was published or unpublished at the time the current meta-analytic analyses were conducted) speak to whether there are threats to the validity of the findings; no evidence of publication bias strengthens conclusions (Rothstein et al., 2006). In addition to the research reports described by Poulin and Chan (2010), we collected all available quantitative effect sizes of friendship stability from published and unpublished sources so as to analyze differences between readily available literature and that which is unpublished.

Method

Sample of Studies

Studies were obtained through multiple approaches, including literature searches performed by using electronic databases and a backward search of references and reviews, as well as by consulting with experts in the field of child and adolescent friendships. First, electronic database searches were performed in the online databases PsycINFO, Academic Search Complete, Google Scholar, and ProQuest. Through searching these databases, we were able to identify both published and unpublished manuscripts, presentations, theses, and dissertations. The keywords searched included "friend*" and "stabil*," "instabil*," "fluctuation," "temporal," "maintain," "longitudinal," or "change." The terms "siena," "stochastic," and "network" were also included in an attempt to obtain studies of friendship network change over time. The searches were completed in December 2013. We next read relevant review papers and the introductions of the included studies to identify citations of other studies of friendship stability. Reports that we were unable to access were requested from the authors, which resulted in the requested reports in addition to other, relevant reports and conference presentations. Last, experts in youth friendships were provided with a list of included studies and were asked to suggest additional studies to include. Because authors of studies that report on friendship stability may consider that particular analysis to be of only peripheral importance, we were quite inclusive in our initial review and reviewed a total of 335 reports from published journals, books, and chapters, as well as unpublished theses, dissertations, and conference presentations.

Although all studies of friendship stability were collected, we anticipated that some participant characteristics or methods would be outside the scope of this meta-analysis. Inclusion and exclusion criteria were specified prior to deciding to include studies in the meta-analysis. The coding manual is available by request. Participants had to be school-aged children or adolescents at the beginning of the study (ages 5–18 years). Because the focus of the meta-analysis is on the stability of friendships of typically developing children and adolescents, studies including samples with disabilities or clinical diagnoses were excluded, as was one study on the effects of segregation versus desegregation in schools on peer relationships (Hallinan & Williams, 1987).

The time lag between measurement occasions had to exceed 1 month in order to test for longer-term stability and not include studies that were assessing test–retest reliability over short periods. All included studies presented longitudinal results and did not rely on retrospective reports, which have the potential to be influenced by memory and current situations. Furthermore, studies that included participants who were previously unfamiliar with one another (e.g., summer camp situations in which participants were in isolation from family and other friends, such as in the study by Blachman and Hinshaw [2002], were not included in the current study. Instead, studies that took place in more normative environments for children and adolescents were included). Furthermore, studies had to be based on either dyadic or ego-level friendships (from one friend's perspective). Studies that reported on networks, cliques, and groups of participants' friendships were excluded from the meta-analysis unless individual-level or dyadic data could be extracted from the reported results. Studies had to report mean-level or whole-group stability of friendships; those that reported that at least one friendship was maintained were excluded.

Studies had to include data to calculate the proportion of friendships stable based on nominations only rather than additional information such as friend affect or quality either in conjunction with friendship stability or independently as a proxy measure of friendship (e.g., Berndt et al., 1986). When it was unclear which reports overlapped into the same studies, we included the reports as separate studies.

Among the studies collected that fit the inclusion criteria, there were many types of studies. One effect size came from a mostly qualitative account of longitudinal friendship activity within a peer group (Rizzo, 1989). Other studies reported ties created, broken, maintained, or never connected—information used to calculate the Jaccard index (Snijders, van de Bunt, & Steglich, 2010) in longitudinal social network analyses. Many studies used the same data, such as Waves 1 and 2 of the Add Health

(National Longitudinal Study of Adolescent to Adult Health) data set (Flashman, 2009, 2012; Rude & Herda, 2010). If a study included the data from another study and reported it in a more intuitive or easy-to-analyze way for the purpose for combining effect sizes for the meta-analysis, that study was included, whereas others were excluded. For example, authors of one study used data from only two schools in the Add Health sample in their analyses (de la Haye, Green, Kennedy, Pollard, & Tucker, 2013). Since effect sizes were available from other studies that did not use a limited sample from this large data set, the studies that reported more inclusive effect sizes were retained, and the studies that included the limited effect sizes were excluded.

Coding of Studies

For each study, we coded characteristics to help explain potential heterogeneity between studies. To test for heterogeneity in friendship stability due to methods of measurement, a number of different methodological factors were coded, which are listed and briefly described in Table 2. In addition to coding the characteristics to be used in the study comparison analyses, the number of participants, gender (proportion of boys in the sample), age, percentage of minority participants, and country were coded for each sample. Within each sample, both the percentage of racial or ethnic minority participants and nationality of the sample were recorded in order to describe typical studies of friendship stability.

Intracoder Reliability

Reliability of coding was empirically evaluated by calculating the proportion of intracoder agreement (Card, 2012) for key coded characteristics. Approximately 10% of reports included for analysis were recoded by the first author by using the same coding protocol as used in the original coding of the reports. Reports were selected by using a random-number generator. Twelve coding categories were evaluated for intracoder agreement. Table 3 lists the proportion of intracoder agreement for 12 coding characteristics. Coding discrepancies were rechecked by using the report and related reports from the same study when appropriate.

Computation of Effect Sizes

For each study, either the mean proportion of friendships maintained or the overall proportion of friendships maintained for the sample was calculated. If the proportion was not reported, this information was calculated by converting the percentage or the raw numbers of friendships maintained

Table 2. Definitions of study characteristics treated as study comparisons

A. Participant characteristics

1. *Gender*. Effect sizes from studies that provided effect sizes for boys and girls in their sample separately were included.
2. *Age*. The mean age of the participants for the mean effect size reported from the study was included. In the case that a study reported an effect size for multiple age groups separately, these effect sizes were considered separately for this analysis.

B. Methodological factors

1. *Nomination procedure (list vs. free recall)*. If participants were asked to circle names or identify friends from some material that included a list to refer to, the study was coded "list." If they were required to pick friends from memory, it was coded "free recall."
2. *Number could nominate (continuous)*. The number of friends participants were allowed to nominate was coded for each study that reported a number (versus studies that reported participants could nominate unlimited friends).
3. *Number could nominate (limited vs. unlimited)*. Whether the number of friends that participants were allowed to nominate was limited versus unlimited was coded in order to provide an additional way to investigate whether nomination number affects effect size.
4. *Same-sex only or any-sex nominations*. Whether participants' nomination pool was limited to participants whose sex matched their own or not.
5. *Randomly limited to one friendship or not*. Friendships may be randomly removed from studies so each participant has only one friendship.
6. *Nomination pool (anywhere, school, grade, or classroom)*. The nomination pool is often limited to reduce participant burden or to be representative of a certain context.
7. *Calculation of stability (individual stability or number of ties stable in the sample)*. The mean of each participant's proportion of stable friendships may be reported or the overall proportion of stable friendships within the sample.
8. *Time lag (one per study)*. The lag between Time 1 and Time 2 (or later) was recorded.
9. *Transition to new grade or no transition*. The lag between measurement occasions may be within one school year or take place over a school-year transition.

C. Definitions of friendship

1. *Reciprocity or nonreciprocity*. Whether participants mutually nominated each other as friends, or if the friendship stability proportion was based on a participants' reporting of the tie only.
2. *Best friendships or other friendships*. Whether the friendships described were labeled "best" friendships or were just friendships.

D. Publication bias

1. *Year of publication*. The year the study was published or, in the case of unpublished works, the year presented or year the data were analyzed and provided for this meta-analysis.
2. *Publication status*. Whether the study was published in a peer-reviewed journal or available through another, unpublished or non-peer-reviewed format.

Table 3. Proportion intracoder agreement

Coding characteristic	Proportion agreement
Number of participants	.86
Age	.71
Roster vs. free recall nomination	1.00
Same-sex nominations	.86
Nomination pool	.86
Number of friends allowed to nominate	1.00
Reciprocity	1.00
Individual vs. overall sample stability	1.00
Time lag	.86
Transition between school years	1.00
Best or close friendships	.86
Proportion of friendships stable	.86

divided by the number of friendships in existence at Time 1. In some studies, this proportion referred to the individual stability of each participant's friendship or the mean stability of their individual friendships. Other studies included an overall proportion of the number of friendships maintained within the whole sample. Both types of effect sizes were included. If a study included multiple time points, only the effects sizes for lags between the study's first data-collection period and the subsequent time points were included (e.g., the proportion of ties maintained between Time 2 and Time 3 would not be analyzed). Proportions were transformed into logits, which decreases problems associated with including either large or small proportions (Card, 2012). Standard errors used in subsequent analyses were based on logits.

To derive an individual effect size for each study, multiple effect sizes from single studies were combined, with attention given to the weight of each effect size. In meta-analyses, effect sizes are weighted in order to give more precise effect size estimates more weight than others. If, in our calculation of the effect size, multiple effect sizes from a single sample were weighted and averaged into a single effect size representative of the study, the total number and demographic information were averaged, as well. Sixteen studies provided effect sizes for girls and boys separately, which were used for the gender study-comparison analyses. If reports pertaining to the same study provided slightly differing information (e.g., participant age or proportion males), values were averaged. In the event that

multiple effect sizes were reported that were included in tests of predictors of heterogeneity, we also coded individual characteristics of participants and study methodology for each effect size.

To analyze methodological and other differences between studies, which may affect friendship stability, the shifting unit of analysis (Cooper, 1998) approach was used when selecting and combining effect sizes within studies for use in the study-comparison analyses. First, every effect size of friendship stability was coded. When the mean effect size was calculated, each study contributed only one effect size, which in some cases was a weighted mean of multiple effect sizes reported in a single study. For example, in this meta-analysis, if the friendship stability of both reciprocal and nonreciprocal friendships was reported, these effect sizes were combined to estimate overall stability and then separated when comparing reciprocal versus nonreciprocal friendships. We followed the common practice in meta-analyses of weighting effect sizes by a function of the precision of the study's point estimate of stability (for technical details, see Card, 2012).

Most categorical and continuous study comparisons were analyzed by using a weighted regression procedure that involved regressing effect sizes onto the study-comparison variables by using a mixed-effects approach (Overton, 1998). The exception was the analysis testing the gender comparison. With the exception of three studies that provided an effect size for only boys or girls, all other studies reported stability for boys and girls separately, so we computed an odds ratio to quantify potential gender differences in friendship stability. The odds ratio was standardized by using the natural log transformation, and the standard errors of the natural logs were computed so that each ln(o) could be weighted prior to analytic combination (Card, 2012). The logits were meta-analytically combined to provide evidence of whether the difference in friendship stability differed by gender.

Results

The overall mean effect size was computed from 57 studies that in total included 28,092 participants. The average of the average ages of the participants reported in the included sample was 11.47 years (SD = 2.76). Their average ages ranged from 6.56 to 17.40. Studies included children and adolescents from Canada, Germany, the United States, Italy, Cuba, Costa Rica, Sweden, the Netherlands, Australia, Chile, Taiwan, and France, with most participants from Canada and the United States. Additional descriptive information is listed in Table 4.

Table 4. Summary of characteristics of studies included in meta-analysis

Continuous descriptors	Sum	*M*	*SD*	Range
Sample size (*N*)	28,091.70	492.84	908.68	19.00–4,591.50
Mean sample age (years)		11.47	2.76	6.56–17.40
% Ethnic minority		0.25	0.25	0–0.88
Continent (*N* studies)				
North America	33			
Europe	9 (incl. 1 European/NA sample)			
Australia	2			
Asia	2 (incl. 1 Asian/NA sample)			
South American	1			
Not reported	10			

Note. % Ethnic minority participants reported in 35 studies. NA = North American.

We used Mplus 7.0 (Muthén & Muthén, 1998–2012) to calculate the mean effect sizes and the effect of the predictors discussed previously within a structural equation model framework (Card, 2012; Cheung, 2008). The friendships analyzed in this meta-analysis were slightly less than half stable. The overall random-effects mean friendship stability of children and adolescents included in the meta-analysis was logit = –0.08, *SE* est. = .11, *ns.* Backtransformed into a proportion, the mean proportion of stable friendships out of all friendships was .48 (95% CI [.43–.53]). Figure 1 displays a stem-and-leaf plot depicting the 57 effect sizes included in the calculation of the mean effect size for friendship stability.

Study-Comparison Analyses

Gender comparison of stability was assessed, as described previously, by weighting and combining the natural log of the odds ratios. The mean weighted ln(o) = .09, *ns.* The difference in stability in the two groups did not differ significantly from zero. There was no evidence of gender differences in stability.

There was no evidence that older youth had more stable friendships than did younger youth ($B = .00$, *ns*). It is important to note that some studies provided effect sizes for participants of different ages within their samples separately. These effect sizes were included in this meta-analysis independently. Controlling for school-year transition ($B = -.71$, $p < .01$), age still did not significantly predict friendship stability ($B = .03$, *ns*).

The study-comparison analyses did not suggest that the methodological differences among studies had large effects on differences in effect

Figure 1. Stem-and-leaf plot of proportion of stable friendships.

	Proportion of stable friendships
.9	1
.8	
.7	0236678
.6	24445778
.5	000111223445689
.4	1112355699
.3	334678
.2	14477
.1	02558
.0	
	Weighted random-effects mean = .48

sizes. Indeed, few of the methodological study comparisons investigated significantly impacted the effect sizes. The mean effect sizes are reported next, backtransformed into proportions from logits. Whether the participants were asked to choose their friends from a list or picked friends based on free recall did not significantly affect friendship stability ($\bar{p}$ = .51, $\bar{p}$ = .44). Whether the number of friends that the participants were allowed to nominate was limited or unlimited ($\bar{p}$ = .46, $\bar{p}$ = .50) did not significantly affect the proportion of stable friendships. When considered as a continuous study comparison, the number of friends that participants were allowed to nominate again had no significant effect on the mean effect size (in this case, B = .00). Whether the number of friendships was limited to one by authors ($\bar{p}$ = .54, $\bar{p}$ = .47) or whether friendship nominations were limited to same-gender nominations only or not ($\bar{p}$ = .50, $\bar{p}$ = .47) did not significantly impact the effect size. Friendship stability did not significantly differ depending on whether the nomination pool was limited to the classroom, grade, school, or whether participants could nominate friends from anywhere ($\bar{p}$ = .42, .51, .48, and .46 for anywhere, school, grade, and classroom, respectively). We also tested the effect of whether individuals' number of stable friendships was averaged and reported by study authors or whether the stability reported was representative of the number of stable friendships within the sample. There was no significant effect of this difference ($\bar{p}$ = .47, $\bar{p}$ = .47).

We were also interested in the effect of lag between waves on friendship stability and whether school-year transitions impacted friendship stability. All lags from within studies were included as individual effect

sizes. We found that lag (in months) between data collections significantly affected observed friendship stability ($B = -.03$, $p < .01$).

In addition to lag between measurement intervals, we were interested in whether the presence of a transition between school years within the time frame of the study affected effect size. We expected that a school-year transition, which results in a break over summer from interaction in the school and sometimes new configurations of students in classrooms and teams, would decrease the stability of friendships. The presence of a school-year transition did significantly negatively impact stability, with a lower mean proportion of stable friendships when a school transition occurred than when one did not ($\bar{p} = .37$, $\bar{p} = .53$).

We were interested in whether these two methodological differences found to significantly impact effect sizes of friendship stability may confound one another. In our sample of studies, there was a positive relation between the lag between measurement occasions and the presence of a school-year transition ($r_b = .59$), suggesting the tendency for a school-year transition to be present when there were also longer lags between measurement occasions. By controlling for whether or not a school-year transition occurred, the effect of lag could be investigated above and beyond the effect of having that transition occur, which, as shown in the previously described analysis, results in the observation of fewer stable friendships. When estimated simultaneously, there was a significant effect of the presence of a school-year transition ($B = -.50$, $p < .05$), as well as lag ($B = -.03$, $p < .01$) on friendship stability, suggesting that a longer the lag between measurement occasions affects the effect size of friendship stability whether or not the time frame of the study includes a school-year transition.

Two definitional differences that vary in friendship research were additionally examined. Reciprocity, often considered a requirement of friendships, did not significantly affect friendship stability ($\bar{p} = .48$ and $\bar{p} = .44$ for reciprocal and nonreciprocal friendships, respectively). Whether best friendships or all friendships were considered did not significantly predict differences in effect sizes of friendship stability either ($\bar{p} = .49$, $\bar{p} = .45$).

Year of publication was not significantly predictive of effect size ($B = .00$), suggesting that older studies in comparison to newer studies showed no difference in effect size. The year of publication of included studies ranged from 1978 to 2013, with more recent studies and fewer older studies included. There was no significant effect of publication status (published versus unpublished) on effect size ($\bar{p} = .51$, $\bar{p} = .38$, $p = .10$), although we found a trend of published studies having slightly larger effect sizes.

Discussion

The current meta-analysis investigated the overall mean level of friendship stability among school-aged children and adolescents, tested conclusions from a narrative review of individual factors that affect friendship stability, and evaluated the effect of methodological and definitional differences on the proportion of children's and adolescents' friendships stable over time. We additionally analyzed the effect of publication bias on friendship stability.

In agreement with Poulin and Chan's (2010) conclusion in their narrative review, about half of friendships were stable over time. The authors stated in their review that results about gender differences in friendship stability among youth have varied across studies. In line with this suggestion, although it has been suggested that girls may be quicker to terminate friendships because of the closeness of their relationships (Değirmencioğlu, Urberg, Tolson, & Richard, 1998), we found no significant difference in friendship stability between girls and boys. Developmental age and the social and cognitive advances that occur as children and adolescents develop have been assumed to be an important factors determining friendship stability. However, evidence of increased friendship stability in association with development has been described as weak and mixed (J. G. Parker & Seal, 1996). In our analyses, age did not significantly predict friendship stability, even after accounting for the effect of a school-year transition. Although within-study analyses have shown a trend of more stable friendships among older youth (Poulin & Chan, 2010), our findings suggest that overall friendship stability is constant throughout childhood and adolescence.

In addition to these factors, researchers have long recognized the potential for differences in methodology to impact effect sizes of friendship stability (e.g., Berndt et al., 1986). This study was the first to investigate these effects systematically across many studies and samples. Although we expected more restrictive methods, such as limiting the nomination pool in some way, to result in less stable friendships, our results showed no significant differences between effect sizes from studies using different nomination techniques and definitions of friendships. Either the way researchers choose their nomination pools aligns with typical friendship patterns among youth (e.g., cross-gender friendships are rare; the classroom is the most appropriate nomination pool for one sample, whereas the school is most appropriate for another sample), or the nomination pool simply does not impact the stability of children's or adolescents' friendships. We recommend that authors continue to base their nomination pools on the populations with whom youth have the most contact and on what is

most economically feasible, because these methods make theoretical and practical sense.

We also investigated the effect of differences in definitions of friendships, including whether reciprocity was a requirement in the recognition of the friendships by researchers and whether participants nominated "best friends" or just friends. First, no differences in friendship stability were found between studies that required reciprocity versus those that did not. Many friendship researchers agree that reciprocity is a defining feature of friendships (Rubin et al., 2006). Our results showed that the long-term affiliation that participants feel toward friends that leads them to label a peer as a friend lasts the same length on average whether or not the authors required reciprocity. This finding does not definitively conclude whether nonreciprocal friendships are *real* friendships but does suggest that, when measuring friendship stability, the requirement that those friendships are reciprocal may not be necessary. An important limitation is that, without the requirement of reciprocity, many of the friendships may have been reciprocal nonetheless. It may be for this reason that the effect sizes for friendship stability for reciprocal and nonreciprocal friendships were similar. Second, some studies have required that youth nominate their best friends and other close friends separately in order to investigate differences between these relationships (A. Bowker, 2004). When best versus close or other friendships were compared across studies, there was no evidence of a difference in stability across the different types of friendships. Additionally, the way stability was calculated did not significantly impact the effect size observed. The lack of significant differences in the effect of most methodological differences investigated shows that, in addition to the individual studies being valuable to the field's understanding of youths' friendships, comparing findings across studies that used differing methodology may be valid in that these differences likely did not impact recorded stability. Last, comparison of effect sizes from the included studies enabled the investigation of publication effects. Effect sizes from published studies did not differ from unpublished studies; this validates conclusions about friendship stability found in the published literature.

There are caveats to this conclusion, however, evidenced by significant results of some methodological comparison analyses. Some research-design differences did significantly impact effect sizes of friendship stability and may have inadvertently influenced results about associations between stability and other variables. When studies are designed either to assess friendship stability or to include friendship stability as an important covariate or predictor, attention to time lag between measurement occasions and the presence or absence of school-year transitions for studies conducted in the

school setting must considered. The results of this meta-analysis suggest that longer lags between measurement occasions and transitions from one school year to the next during the length of the study will likely result in less friendship stability than if the study took place within a shorter period or within one school year. With this awareness, researchers can explore factors that contribute to friendship stability or dissolution over school breaks or even during transitions into new schools with peers who participants were previously unfamiliar with, or even in out-of-school contexts. Predictors of friendship stability should be included in studies of multiple waves of friendship data so as to explain both short-term and long-term stability, and whether the same friendship characteristics predict short-term and long-term stability. The findings of this meta-analysis do not suggest that different methods are all equivalent in all studies of friendships beyond those methods that focus on friendship stability.

Logistical factors, such as attending summer activities together or living in the same neighborhood, could additionally predict friendship stability. However, almost all longitudinal studies of friendships, and most friendship research in general, takes place within schools. But previous research has shown multicontext friendships to be more enduring than single context friendships (Chan & Poulin, 2007), something that is not observable unless participants are asked to report on this variable. Just as a school-year transition might disrupt a school-only friendship, the beginning of the school year may disrupt the friendship of youth in a summer extracurricular context. A limited number of studies have investigated youths' friendships within these settings (e.g., Blachman & Hinshaw, 2002) and in multiple settings (Chan & Poulin, 2007; DuBois & Hirsch, 1990) in order to understand fully the impact and influence of children's and adolescents' friendships. Research should continue to evaluate the effects of friendships existing in multiple contexts and the interaction of individual-level, friendship-level, and these contextual factors in the prediction of friendship stability. For instance, what individual-level and friendship-level characteristics predict whether the friendship will become a multicontext friendship? Differences in friendship maintenance, as well as whether and how the influence and effects of friendship operate in difference contexts, is an important future area of research.

With, on average, about half of friendships found to be unstable over time, it is unlikely that all dissolved friendships are problematic. Some dissolved friendships may end because of conflict, perhaps transforming into inimical relationships (Casper & Card, 2010), whereas others may downgrade into less close friendships (J. C. Bowker, 2010) or end through more benign processes such as growing apart because of spending less

time together or having new interests. These differences are recognized in research. For instance, it is expected that school-year transitions or changes in schools (Hardy et al., 2002) may disrupt friendships even though an actual conflict between friends may not occur. There may also be circumstances when friendship dissolution protects individuals from harmful influence or the effects of an unsupportive relationship. Dissimilarity in relational aggression, for instance, has been associated with friendship dissolution (Ellis & Zarbatany, 2007). Youth may distance themselves from an aggressive friend if their behavior is unaligned. J. G. Parker and Seal (1996) investigated differences among early adolescents and adolescents who tend to experience growth, stasis, rotation, or decline in their friendships, as well as number of behavioral attributes that may contribute to this different experiences with friendships. Interestingly, the authors found that those in stable relationships, in stasis, tended to not be distinct from other classifications of children in positive or negative ways. Also, children in the group who lost some friends were not maladjusted. These youth, who showed some friendship shuffling, may have only maintained the friendships most positive for their development. Contrarily, those who seemed to cycle through friends may not have been dropping friends purposefully. Instead, these individuals may have been dropped by peers who were not benefiting from the relationship. Instead of focusing solely on friendship maintenance or dissolution, it seems important to investigate additionally when and why maintenance and dissolution of friendships occurs. Given the finding in this meta-analytic review that school-year transitions are associated with less friendship stability, it seems that some reorganization of friendship ties after a school-year transition may be typical among youth and signify the ability to create bonds with a diversity of peers with whom youth have most contact within a temporal context. It would be of interest to study the effect, or lack of effect, of friendships that are quickly replaced following transitions on child and adolescent development. It is additionally of interest to know which youth remain in unhealthy relationships while others do not, and the effect of these relationships.

Conclusion

In conclusion, we believe it is important to continue to study characteristics of friendships that lead them to be stable or unstable, with an understanding that some of the methodological differences thought to potentially bias results may have little to do with measured friendship stability. However, other factors, including time lag between waves of data collection and

transitions across school years, may impact results. It is of interest, then, to test hypotheses about substantive predictors and consequences of friendship stability with variations in the aforementioned variables so that the impact of the methodological and substantive factors can be measured and explained in unison.

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