Pathways to happiness: From personality to social networks and perceived support

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**Abstract**

The present study attempts to incorporate individual personality into a social network account of subjective wellbeing (SWB) by proposing and testing a path model in which social relationships (ego-centric social networks and perceived social support, PSS) mediate the relationship between personality and SWB. We found that network characteristics (including network size, emotional closeness, and proportion of new contacts) are related to SWB largely via the mediation of PSS. Additionally, network size and proportion of new contacts function as important mediating mechanisms linking extraversion, agreeableness and openness to PSS and SWB.

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**1. Introduction**

Social networks matter. The social network perspective provides a unique approach to understanding how social relationships influence individuals’ instrumental achievements and wellbeing. In particular, various characteristics of egocentric social network have been linked to indicators of subjective wellbeing such as depression and life satisfaction (Acoc k and Hurlbert, 1993; Burt, 1987; Lin et al., 1999; Perry and Pescosolido, 2010; Trot terdell et al., 2008). However, little research has fully assessed the mechanisms through which social networks may influence these outcomes (Anderson, 2008; Reagan s and McEvily, 2003). Additionally, the social network perspective has not fully acknowledged the role of individual differences, such as personality, in shaping network characteristics (Burt, 2000; Robin s and Kashima, 2008; Stevenson and Greenberg, 2000). In the present study, we seek to advance our knowledge on these two issues. To do so, we propose and test a path analytic model in which social network characteristics are linked to subjective wellbeing (SWB) via perceived social support (PSS), and social networks and PSS together form an important pathway between personality and wellbeing.

Research suggests that social networks exert influence on wellbeing primarily through the provision of social support. Social support is defined as the assistance available via one’s connection to others, such as companionship, information and tangible assistance (Cohen, 2004; House et al., 1988; Thoits, 1995). The social network perspective emphasizes the role of structural and compositional characteristics of individual ego networks such as the number of network contacts, strength of ties, and diversity of network contacts (Acoc k and Hurlbert, 1993; Perry and Pescosolido, 2010; Song and Lin, 2009). Researchers argue that characteristics of social networks determine the availability and adequacy of social support, which in turn influences wellbeing. However, with few exceptions (Lin et al., 1999), social support has rarely been evaluated as mediator of the relationship between network characteristics and wellbeing (Thoits, 1995).

In contrast to the sociological literature, psychological research has largely focused on perceived social support, or the perceived availability of assistance from others (Bolger and Eckenrode, 1991; Cohen and Wills, 1985). Perceived support is considered a more proximal measure of the useful features of one’s social networks, and is at the root of cognitive and emotional responses to illness and stress (Cohen, 2004). This disjunction in disciplinary approaches to the social determinants of wellbeing leaves a number of important questions unanswered. For example, do social networks and perceived social support separately influence individual wellbeing? Or, is the relationship between social networks and subjective wellbeing mediated by perceived social support?

Also, the current literature on social networks largely neglects the role of psychological mechanisms. Calling for more attention to the issue of agency, Emirbayer and Goodwin (1994) pointed out that social network research fails to show how intentional human action shapes the very social networks that constrain actors in turn. Advocating for more communication between network research...
and psychological research, Robins and Kashima (2008) stated that with little attention paid to the motivation and cognition of individuals, social network research risks a seriously undertheorized account of human experience.

Linking personality to social networks is considered as a promising way to incorporate individual (or differential) psychology into a network account of individual experience and outcomes, such as wellbeing (Burt et al., 1998; Kalish and Robins, 2006; Totterdell et al., 2008). Personality captures relatively stable patterns of thought, emotion, motivation and behavior, and influences perceptions, attitudes and values, as well as reactions to people and situations (McAdams, 2009). At the very basic, dyadic level of social relationships, personality plays a substantial role in relationship development and maintenance (Flynn et al., 2006; McCrae, 1996; Robins and Kashima, 2008). Personality may also shape individuals' motivation to leverage advantageous network positions and ability to overcome structural constraints (Anderson, 2008; Mehr et al., 2001).

Indeed, several personality traits have been linked to important network outcomes, including proactive actions to build network ties (Ashford and Black, 1996; Forret and Dougherty, 2001; Lambert et al., 2006; Totterdell et al., 2008; Turban and Dougherty, 1994; Wanberg and Kammeyer-Mueller, 2000), structural and compositional characteristics of egocentric social networks, and network positions (Burt et al., 1998; Mehr et al., 2001; Oh and Kilduff, 2008; Roberts et al., 2008; Totterdell et al., 2008). Further, personality dispositions have been linked to PSS (Bowling et al., 2005; Carver and Connor-Smith, 2010; Zellars and Perrewé, 2001), and to wellbeing (DeNeve and Cooper, 1998; Steel et al., 2008). PSS was also found to mediate the effect of certain personality variables on coping behaviors (Von Dras and Siegler, 1997) and depression (Finch and Graziano, 2001). While these studies provide useful information on the role of personality traits in shaping social relationships and wellbeing outcomes, most of them were conducted in a piece-meal fashion; the entire pathway from personality to SWB via social relationships (i.e., network structure and PSS) has not been fully explained.

In the present study, we trace the entire pathway from personality to SWB via social networks and PSS. In doing so, we weave multiple streams of research in the fields of sociology and psychology into a theoretical model that accounts for both the mediating processes underlying the relationship between social networks and wellbeing and the role of personality traits as antecedents of these processes. In the following sections, we first provide an integrative critical review of current literatures on: (1) the interconnections among social networks, perceived social support and wellbeing and (2) the relations between personality characteristics and various social network variables. We then propose and test hypotheses on specific associations between these constructs with a sample of 309 first-year college students. We feel that a population of incoming college students is particularly advantageous for investigating the relationships among personality, social networks, PSS, and SWB. First-year college students are in the process of transition into a new social environment where they most likely do not have well-established social networks. Such a situation enables the role of personality in the development of social networks to be more easily observed.

2. Literature review

2.1. Social networks, perceived social support (PSS), and subjective wellbeing (SWB)

Social relationships influence wellbeing via the provision of social support (Cohen, 2004; Henderson, 1977, 1981; House et al., 1988; Thoits, 1995). Social networks represent the structure of and the opportunity for regular social interactions and stable social roles. When engaging in social interactions and fulfilling social roles, “...individuals gain a sense of identity, predictability and stability; of purpose; and of meaning, belonging, security, and self-worth” (Cohen, 2004, p. 679). Consequently, social networks are likely to promote positive cognitions and emotions (Cassel, 1976; Cohen, 1988; Pavot et al., 1990; Thoits, 1983). Furthermore, social networks provide multiple sources of information that could influence health relevant behaviors, lead to more effective use of available health services, and help avoid potentially stressful or high-risk situations. Network relationships are also critical sources of material resources (e.g., money) and tangible help (e.g., a ride to a healthcare provider; Lin et al., 1999; Lin, 2001). The knowledge that one can obtain necessary assistance from network contacts bolsters one’s confidence in the ability to cope with stress and attenuates negative interpretations of stressful situations (Cohen, 2004; Thoits, 1995). Less negative appraisal and greater confidence in the ability to cope in turn lowers the level of effective stress, and promotes more beneficial emotional and cognitive responses to events. Therefore, social relationships not only routinely promote wellbeing, but also protect individuals against the potential negative influence of stressful life events (Cohen and Wills, 1985; Thoits, 1995).

To capture individuals’ social relationships, the network perspective of social support has largely relied on an egocentric network approach (Wasserman and Faust, 1999), which emphasizes that structural characteristics of a network (e.g., the size of one’s network, emotional closeness with contacts, and degree of connectedness among one’s contacts), and the composition of contacts in a network (e.g., demographic diversity, and social or formal organizational status) determine the availability of social support. Early research along this line focused on global measures of social interaction that assessed the nature of relationship ties, neighborhood interaction, community participation, and group and organizational membership, and their effects on depressive symptoms, positive feelings about life, and overall wellbeing (Cohen and Wills, 1985; Bolger and Eckenrode, 1991; Pinquart and Sorensen, 2000). Recently, social network researchers have applied formal network methodologies (e.g., name generator or position generator) in attempts to link specific characteristics of egocentric networks to wellbeing outcomes such as life satisfaction, depressive symptoms, and self reported general health (Acoc and Hurlbert, 1993; Lin et al., 1999; Perry and Pescosolido, 2010; Song and Lin, 2009; Totterdell et al., 2008).

Psychological research adopted a different approach to studying the connection between social relationships and wellbeing by focusing largely on perceived availability of social support (Cohen, 2004; Cohen and Wills, 1985; Thoits, 1995). Two mechanisms have been proposed. On one hand, perceived support may reflect the actual quantity and quality of support from others, which can help reduce isolation, avoid stressful situations, develop more positive appraisal of negative events, and cope with difficulties. On the other hand, the perception that others will provide appropriate assistance is sufficient for people to acquire a generally more positive emotional state and develop more positive psychological responses to stress, which may function independently of the reception of assistance. Empirically, there are a large number of studies documenting the beneficial effect of PSS on subjective wellbeing and physical health (Cohen, 2004; Cohen and Janicki-Deverts, 2009; Thoits, 1985; Pinquart and Sorensen, 2000).

Both the social network approach and the perception-based approach demonstrate the importance of social relationships for SWB. The emphasis on perceived support reflects the reasonable assumption that people’s perceptions are more direct measures of the helpful features of relationships than the more distal measures of structural features of social relationships (Cohen and Wills,
Social network research, on the other hand, posits that perceptions of social support develop as a result of the existence of social relationships. Specifically, characteristics of social networks determine the quantity and quality of social support, which in turn shapes support perceptions (Lin, 2001; Lin et al., 1999; Thoits, 1985). These pathways, however, have not been fully tested by social network researchers. A notable exception is a study by Lin et al. (1999) which found that the effect of two network characteristics, the number of weekly contacts and the presence of an intimate relationship (e.g., a spouse or partner), on depressed mood was partially mediated by perceived expressive support. More research is needed to determine the pathway from network characteristics to perceived social support and wellbeing.

2.2. Personality and SWB: mediating effects of social networks and PSS

Subjective wellbeing (SWB) is a broad psychological phenomenon that includes “people’s emotional responses, domain satisfactions, and global judgments of life satisfaction” (Diener et al., 1999, p. 277). Psychological research has documented consistent evidence that personality influences individual wellbeing (DeNeve and Cooper, 1998; Steel et al., 2008), via two major pathways. First, certain personality traits such as positive affectivity (or extraversion) and negative affectivity (or neuroticism) are known to be directly related to SWB, as they describe individuals’ predispositions to experience positive or negative affect, ceteris paribus (Steel et al., 2008).

Second, as discussed previously, personality may influence SWB via the pathway of social relationships and PSS. Personality traits influence how individuals seek out, establish, maintain, and subjectively assess relationships with others (Kalish and Robins, 2006; McCrae, 1996; Robins and Kashima, 2008), which ultimately affects individuals’ SWB. Indeed, studies have shown that individual differences play a substantial role in explaining individuals’ proactive social networking behaviors (Lambert et al., 2006; Forret and Dougherty, 2001; Wanberg and Kammeyer-Mueller, 2000). There is some evidence that individual attributes such as independence and individualism, self-monitoring, extraversion, neuroticism, agreeableness, and openness explain significant variation in the characteristics of individual ego networks (e.g., size, emotional closeness, diversity, or structural hole) or individual structural positions within a complete network (e.g., centrality) (Burt et al., 1998; Jensen-Campbell et al., 2002; Klein et al., 2004; Mehra et al., 2001; Oh and Kilduff, 2008; Roberts et al., 2008; Totterdell et al., 2008). With regard to PSS, existing research has found that PSS mediates the effect of extraversion on coping behaviors (Von Dras and Siegler, 1997) and the effects of extraversion, agreeableness, and neuroticism on depression (Finch and Graziano, 2001).

Integrating theories and findings dispersed in multiple streams of research, this study develops and tests a comprehensive model that traces the full scope of interconnections from personality to SWB, via structural features of social networks and subjective perception of social support. By doing so, the current study intends to shed light on the interplay between psychological processes and structural factors in shaping SWB. Moreover, linking personality and social networks contributes to the growing effort by social network researchers to incorporate individual agency and motivation into a structural account of human experience (Anderson, 2008; Burt, 2000; Mehra et al., 2001).

3. Theory and hypotheses

Based on our critical review of the current literature, we propose an integrative model with two objectives (see Fig. 1). First, we suggest that the effect of social networks on SWB is better understood when we consider the mediating role of PSS. We propose that PSS is a more proximal predictor of SWB, and that social network characteristics, as indicators of the interpersonal environment and social resources potentially available to an individual, indirectly relate to SWB via the mediation of PSS. Second, we hypothesize that as indicators of the quantity and quality of potential and perceived social resources, social networks and PSS together mediate the relationship between certain personality traits and SWB. We suggest that dispositional characteristics facilitate or hinder the development and maintenance of social relationships that influence perceived access to social resources, which then influence SWB.

3.1. PSS predicts SWB

Three major dimensions of social support have been identified: emotional, informational, and instrumental support (Cohen, 2004; House and Kahn, 1985; Lin et al., 1999). Emotional support refers to the opportunities for trust, companionship, venting, and support in communications such as empathy, comfort, and encouragement. Informational support refers to the provision of relevant information, advice, or guidance that can help the individual define, understand, and cope with difficulties and problems. Instrumental support refers to tangible help such as lending money, providing a ride, or helping with household chores. While different dimensions of social support can be distinguished conceptually, they are often highly intercorrelated empirically (Cohen and Wills, 1985).

Researchers have assessed PSS using measures that capture different facets of support (e.g., Lin et al., 1999), as well as global measures that refer to support across dimensions (e.g., Cohen and Hoberman, 1983). Despite such diverse measures, findings have converged on the beneficial effect of PSS on SWB. PSS has been positively associated with SWB (Finch et al., 1989; Pinquart and Frohlich, 2009) or psychological wellbeing (Turner, 1981), and negatively related to anxiety and depression (Bolger and Eckenrode, 1991; Brissette et al., 2002; Lara et al., 1997; Lin et al., 1999), and has been found to mitigate the negative impact of stressful life events on psychological and physical functioning (Cohen and Wills, 1985; Cohen, 2004). Consistent with existing research, we hypothesize that PSS will have a positive relationship with SWB.

H1. PSS will be positively related to SWB.

3.2. Network structure predicts PSS

While various methods are used to assess social networks, the egocentric network is the most often studied in the context of social support (Wasserman and Faust, 1999). In the study of egocentric networks, the name generator is the method most commonly used to assess network characteristics and structure (Marsden, 2005). In this approach, participants (egos) are given questions that elicit the name of network contacts (alters) such as people with whom they discuss important matters (Burt, 1984), or people with whom they chat or visit (Campbell and Lee, 1991). Once a list of names has been produced, participants are presented with a series of follow-up questions (name interpreters) that request information about each alter, the relationship between the ego and the alters, and/or the relationships between alters. Data collected through name generators and interpreters provide individual profiles of respondents’ egocentric network members that can be aggregated into measures of network composition and structure such as average tie strength, mean alter characteristics, proportion of contacts with certain characteristics, network range and constraint, and so on.
In the present study, we focus on four structural features of egocentric networks that are theoretically relevant to social support: emotional closeness, network size (i.e., the number of network contacts), upper reachability, and proportion of newly developed contacts. Emotional closeness is considered particularly important for accessing social assistance (Cohen and Wills, 1985; Lin et al., 1999; Thoits, 1995). Network size influences the quantity of assistance potentially available through one’s network (Acoc and Hurlbert, 1993; Burt, 1987; Campbell et al., 1986; Lin, 2001). Upper reachability refers to the position of the network contacts in a hierarchical social structure, and can determine the quality of resources network contacts potentially provide (Lin, 2001). Proportion of newly developed network contacts is particularly important for individuals making a transition into their first year of college. Compared with preexisting contacts, newly developed contacts have current and firsthand knowledge of the new environment, and are physically closer, which enables them to more easily provide assistance. We propose that these four network characteristics will be related to PSS. Below we describe our theoretical rationales.

Emotional closeness. Emotionally close network contacts are particularly important for social support (Henderson, 1977). Social network research suggests that individuals are more likely to seek emotional, informational, and instrumental support from contacts with whom they feel emotionally close, and that closely connected network contacts are also more motivated to provide social support (Lin, 2001; Granovetter, 1983). Research has consistently linked the presence of confidants or emotionally close network contacts to perceived availability of social support (Hays and Oxley, 1986; Lin et al., 1999; Pinquart and Sorensen, 2000; Seeman and Berkman, 1988; Stokes, 1983; Wellman and Wortley, 1990). Therefore, we hypothesize a positive association between emotional closeness and perceived support availability.

H2a. Emotional closeness will be positively related to PSS.

Network size. The size of one’s network may influence the quantity as well as the variety of resources and assistance potentially available to the ego. A larger network indicates more people who can potentially help in different ways, and should therefore improve one’s opinion about support availability. Although some studies yielded inconclusive findings (Dimond et al., 1987; Vaux and Harrison, 1985), a vast majority of available research has found a significant relationship between PSS and network size (Connell and D’Augelli, 1990; Cutrona, 1986; Lin et al., 1999; Norbeck et al., 1981; Seeman and Berkman, 1988; Turner et al., 1983; Ward et al., 1984). Thus, we hypothesize that network size has a positive association with perceived social support.

H2b. Network size will be positively related to PSS.

Upper reachability. Upper reachability refers to the position of the network contacts in a hierarchical social structure (Lin, 2001). Researchers have measured it using contacts’ average or maximum educational level, socioeconomic status, occupational prestige, or position in an organizational hierarchy (Acoc and Hurlbert, 1993; Morrison, 2002; Seibert et al., 2001; Song and Lin, 2009). It is argued that contacts occupying higher positions may possess more valuable information and resources, which not only is beneficial for instrumental actions such as finding a job (Lin, 2001), but also may improve life satisfaction (Acoc and Hurlbert, 1993), and reduce depression (Song and Lin, 2009). In our study, we conceptualize upper reachability as levels reached within the university structure. First-year college students may benefit from social interaction with more senior students because the latter have more knowledge about the new environment, and more experience dealing with the various challenges of college life. Further, staff and faculty members may possess information about the university that is not readily available to students, and provide more useful guidance on how to adapt to college life. Therefore, having upperclassmen and/or faculty in one’s network may lead to more favorable evaluation of the availability and adequacy of social support.

H2c. Upper-reachability will be positively related to PSS.

Proportion of new contacts. Adapting to a new environment, such as entering college or a new workplace, requires the acquisition of information through multiple sources (Ostroff and Kozlowski, 1992). Research suggests that network ties within the environments play a pivotal role in facilitating positive socialization and adjustment outcomes (Hays and Oxley, 1986; Morrison, 2002). Compared with network contacts elsewhere, contacts developed on campus are geographically closer, share common experience, and are more knowledgeable about the social and academic environment. Therefore, they are more available for emotional, informational, and instrumental support than pre-existing contacts. As a result, we hypothesize a positive association between proportion of new network contacts and PSS.

H2d. Proportion of new contacts will be positively related to PSS.
3.3. Partial versus full mediation of PSS in the relationship between network characteristics and SWB

The provision of social support has been held as the primary mechanism underlying the relation between social networks and wellbeing related outcomes. While researchers have considered both received social support and PSS as potentially mediating the effect of social networks on wellbeing, the literature on received social support has either yielded null findings (e.g., Lin et al., 1999) or reported greater depression when received social support increased (Bolger et al., 2000; Cohen and Wills, 1985). Horenstein and Cohen (2009) believe that this finding indicates a causal relationship from depression to received social support, suggesting that it is those who are most in need (under stress, experiencing negative emotions) who actually mobilize their social networks. We therefore expect PSS to be the primary mediating mechanism of the association between social network characteristics and SWB. To assess whether PSS is full or partial mediator, we will evaluate an alternative model that includes direct paths from network variables to SWB.

3.4. Personality predicts network structure

Research in personality psychology has converged on a five-factor model to describe the core dimensions of human personality (the Big Five), namely, Extraversion, Agreeableness, Conscientiousness, Openness to Experience, and Neuroticism (Digman, 1990; Goldberg, 1990, 1992). Existing research has provided abundant theoretical rationales and some empirical evidence linking the Big Five to interpersonal dynamics and characteristics of ego networks. Below, we present detailed arguments for the hypothesized relationships between the Big Five factors and the network characteristics discussed earlier.

Extraversion. Extraversion refers to the extent to which an individual is optimistic, sociable, energetic, enthusiastic, and cheerful in outlook (John and Srivastava, 1999; McCrae and John, 1992). Extraverted individuals are known to have a preference for social interactions and to be more comfortable and skilled at handling social interactions than their introverted counterparts (Asendorf and Wilpers, 1998; Akert and Panter, 1988; Ozer and Benet-Martinez, 2006; Riggio, 1986; White et al., 2004). Empirical research has documented consistent positive associations between extraversion and various aspects of social relationships. Compared to introverts, extraverts are more likely to engage in proactive networking behaviors (Forret and Dougherty, 2001; Wanberg and Kammerly-Mueller, 2000), are faster at developing relationships in new environments (Asendorf and Wilpers, 1998), and tend to have larger social networks (Jensen-Campbell et al., 2002; Russell et al., 1997; Selhout et al., 2010), closer relationships (Russell et al., 1997; Wu et al., 2008), and a wider range of contacts (Doeven-Eggen et al., 2008). Therefore, we hypothesize that extraversion is positively related to all four network variables, namely, emotional closeness, network size, upper reachability, and proportion of new contacts.

**H3a.** Extraversion will be positively associated with emotional closeness, network size, upper reachability and proportion of new contacts.

Agreeableness. Agreeableness refers to a tendency to exhibit valued interpersonal characteristics such as altruism, modesty, trust, cooperation, empathy and tender concern for others (Digman, 1990; Graziano et al., 1996; Graziano and Eisenberg, 1997). Agreeable individuals are motivated to maintain social relations, and to regulate negative affect in interpersonal settings (Ahadi and Rothbart, 1994). These attributes contribute to interpersonal cohesion and harmony, and increase acceptance by others. Indeed, compared to disagreeable individuals, agreeable individuals tend to have larger friendship networks (Jensen-Campbell et al., 2002), are more likely to be selected as friends (Klein et al., 2004; Selhout et al., 2010), experience less conflict (Asendorf and Wilpers, 1998), and enjoy more intimate relationships (White et al., 2004; Wu et al., 2008).

While existing studies support the beneficial effect of agreeableness on network size and emotional closeness, they provide little evidence linking agreeableness to other aspects of social networks. Asendorf and Wilpers (1998) reported an insignificant association between agreeableness and relationship formation. Wanberg and Kammeyer-Mueller (2000) failed to find any significant relationship between agreeableness and proactive networking behaviors. Finally, we are not aware of any theory or evidence linking agreeableness to the diversity or status of network contacts. In view of existing theory and research, we expect agreeable individuals to have larger networks and closer relationships with their contacts.

**H3b.** Agreeableness will be positively related to network size and emotional closeness.

Conscientiousness. This personality dimension refers to “socially prescribed impulse control that facilitates task and goal directed behaviors” (John and Srivastava, 1999, p. 121). Conscientious individuals tend to be dutiful, organized, disciplined, hard working, reliable, and achievement oriented (Costa and McCrae, 1992), and have been found to experience greater achievement such as better grades and better job performance (Judge et al., 1999). These attributes, however, seem to be less relevant in social interactions in which achievement and task related performance are not emphasized (Anderson et al., 2001). Indeed, there is less theory or empirical evidence available to directly connect conscientiousness and social network characteristics. Nevertheless, Asendorf and Wilpers (1998) found that first-year college students high in conscientiousness were more likely to have frequent contact with their family members. Further, Hough (1992) and Doeven-Eggen et al. (2008) noted that conscientious individuals are more motivated to maintain existing relationships with others. Taken together, these insights suggest that conscientious individuals are persistent in various aspects of their lives, and tend to focus on maintaining established relationships rather than establishing new relationships. Therefore, we expect conscientious individuals to focus on existing relationships, and to have a smaller proportion of new contacts.

**H3c.** Conscientiousness will be negatively related to the proportion of new contacts.

Openness. Openness to experience (or Openness) describes individuals who are curious, flexible, receptive to new ideas, and motivated to seek novelty and explore new environments (Costa and McCrae, 1992; Woo et al., 2013). Openness may facilitate the development of new relationships because people who are curious and open-minded have an interest in getting to know others and seek out interactions with new people (McCrae, 1996). On the other hand, focusing on exploring new relationships, open individuals may be less motivated and have less time to develop close bonds or maintain stable relationships (Wu et al., 2008). Further, some attributes displayed by highly open individuals such as unconventional ideas and lack of commitment to relationships (McCrae, 1996) may be considered undesirable, and consequently hinder the development of close relationships. Empirically, Selhout et al. (2010) failed to find any significant association between openness and network size. Jensen-Campbell et al. (2002) reported a negative association between openness and the number of close ties. Klein et al. (2004) found that open individuals were more likely to be included in adversary networks. Taken together, the existing theories and findings seem to suggest
a tradeoff between developing new relationships and deepening existing relationships, and that open people may therefore have a greater proportion of new contacts in their networks but less close relationships with their contacts.

**H3d.** Openness will be negatively related to emotional closeness, but positively related to the proportion of new contacts.

**Neuroticism.** Neuroticism describes the individual tendency to experience substantial and frequent mood swings, to exhibit poor emotional control, and to display negative emotions such as anger, hostility, impulsiveness, and irritability (Costa and McCrae, 1992). Theories and empirical evidence highlight the disadvantage associated with high levels of neuroticism in social situations. Neurotic people are more sensitive to the negative aspects of social relationships, fearful of rejection, and less likely to initiate relationships (Turban and Dougherty, 1994) or engage in interpersonal facilitation (Van Scotter and Motowidlo, 1996; Hurtz and Donovan, 2000). They are usually less skilled at handling interpersonal differences, and more likely to adopt an avoidance conflict management strategy characterized by a reluctance to communicate their needs to others (Antonioni, 1998). Additionally, inclined to see events and situations in a negative light, they tend to express negative feelings toward others, and make vengeful attempts to repress perceived offenses (Anderson et al., 2001; Barelds, 2005; Donnellan et al., 2005; McCullough et al., 2001; Robins et al., 2002). In short, neurotic individuals are less comfortable in social situations and have more problems developing positive relationships than their more emotionally stable counterparts. These insights suggest that neuroticism may have a negative association with network size and emotional closeness. Existing empirical studies support the positive association between neuroticism and poor relationship quality (Klein et al., 2004; Russell et al., 1997; Wu et al., 2008), but have found little evidence linking neuroticism to network size (Jensen-Campbell et al., 2002; Roberts et al., 2008; Sarason et al., 1983; Selhout et al., 2010). Beyond relationship quality and network size, there is little theory or empirical evidence linking neuroticism to other network characteristics. Based on the above theories and empirical findings, we expect neurotic people to have smaller networks, and to have more distant relationships with their contacts.

**H3e.** Neuroticism will be negatively related to emotional closeness and network size.

### 3.5. Direct links from personality to PSS and SWB

In addition to the pathways from personality traits to social network characteristics, extraversion and neuroticism may also be directly related to PSS and SWB, because they describe individuals’ predispositions to take on a more positive and negative opinion of one’s life (respectively) and to experience positive and negative affect (respectively), ceteris paribus (Diener et al., 1999; Henderson, 1981; Lutz and Lakey, 2001; Russell et al., 1997; Steel et al., 2008). Therefore, to be consistent with the current literature, we include direct paths from extraversion and neuroticism to PSS and SWB in our theoretical model. Existing theories and empirical studies are less clear on whether openness, consciousness and agreeableness are directly related to PSS or SWB. We will assess if these personality variables have a direct relationship with PSS and SWB by evaluating alternative models that include direct links from openness, consciousness and agreeableness to PSS and SWB.

In summary, we hypothesize a path model that contains six endogenous variables, including four social network characteristics, one indicator for PSS and one indicator for SWB. In this model, PSS has a direct association with SWB, and social network characteristics are indirectly linked to SWB via the mediation of PSS. Together, social network characteristics and PSS partially mediate the pathway between personality and SWB.

### 4. Methods

#### 4.1. Sample and data

Data were collected with three 20-min long online surveys administered to first-year students in a public university at three time points. For each of the three surveys, participants were offered the opportunity to enter their name into a drawing. The drawing randomly selected 30% of the participants to receive a $10 gift card, and one participant to receive a $100 gift card.

Upon arrival on campus, all freshmen students enrolled in the fall of 2010 were invited via email to fill out the first online survey. They were informed that they would receive subsequent invitations to complete a battery of survey questionnaires again in the middle of the semester, and at the semester’s end. The first survey included questions about socio-demographic background, prior ties to the university, and personality. An email reminder was sent out a week later. In total, 1129 students filled out the first survey. Mid-semester, a second email invitation was sent to participants who had completed the first survey, followed by a reminder a week later. The second survey included questions on structural characteristics of participants’ social networks. Four hundred and twelve students participated in the second survey. Finally, a third email invitation was sent at the end of the semester to participants who completed the first survey, again followed by a reminder a week later. The third survey contained questions on perceived social support and life satisfaction. Five hundred seventy five students participated in the third survey.

In total, 309 students completed all three surveys. As presented in Table 1, 58% of the respondents are female, with an average age of 18.6. In terms of racial/ethnic background, 78% of the respondents

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<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>3.79</td>
<td>0.58</td>
<td>0.13* (0.79)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Conscientiousness</td>
<td>3.76</td>
<td>0.55</td>
<td>0.34*</td>
<td>0.28* (0.82)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Openness</td>
<td>3.58</td>
<td>0.51</td>
<td>0.16*</td>
<td>0.15*</td>
<td>0.19* (0.76)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Neuroticism</td>
<td>2.92</td>
<td>0.63</td>
<td>−0.27**</td>
<td>−0.33**</td>
<td>−0.25**</td>
<td>−0.07 (0.81)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Network size</td>
<td>9.26</td>
<td>5.57</td>
<td>0.20**</td>
<td>0.19**</td>
<td>0.05</td>
<td>0.00</td>
<td>−0.07</td>
<td>−</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional closeness</td>
<td>0.54</td>
<td>0.29</td>
<td>0.04</td>
<td>0.11*</td>
<td>0.08</td>
<td>0.08</td>
<td>0.01</td>
<td>−0.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper-reachability</td>
<td>1.51</td>
<td>1.08</td>
<td>0.15*</td>
<td>0.04</td>
<td>0.04</td>
<td>0.00</td>
<td>−0.04</td>
<td>0.31**</td>
<td>−0.20**</td>
<td>−</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New contacts</td>
<td>0.44</td>
<td>0.34</td>
<td>0.14*</td>
<td>−0.04</td>
<td>0.02</td>
<td>0.14*</td>
<td>−0.13*</td>
<td>−0.02</td>
<td>−0.32**</td>
<td>0.40**</td>
<td>−</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSS</td>
<td>3.63</td>
<td>0.74</td>
<td>0.25**</td>
<td>0.17*</td>
<td>0.23**</td>
<td>0.06</td>
<td>−0.18</td>
<td>0.22**</td>
<td>0.05</td>
<td>0.12*</td>
<td>0.26** (0.88)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWB</td>
<td>3.39</td>
<td>0.83</td>
<td>0.23**</td>
<td>0.20**</td>
<td>0.21**</td>
<td>0.03</td>
<td>−0.26**</td>
<td>0.19**</td>
<td>0.05</td>
<td>0.05</td>
<td>0.09</td>
<td>0.49** (0.84)</td>
<td></td>
</tr>
</tbody>
</table>

Note: N = 309.

*p < 0.10, *p < 0.05, and **p < 0.01.
are white, 16% are Asian, 2% are African American, 2% are Hispanic, and 2% belong to the non-specified, “other” category.

4.2. Measures

4.2.1. Subjective wellbeing (SWB)
Self-reported life satisfaction was used as the SWB outcome variable, which was measured by the 5-item Satisfaction with Life Scale developed by Diener et al. (1985). On a 5-point scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree), participants rated the extent to which they agreed or disagreed with each of the five statements about their life. Sample items included “In most ways my life is close to my ideal.” “I am satisfied with my life.” “If I could live my life over, I would change almost nothing.” The scale has acceptable reliability (Cronbach’s Alpha = 0.84).

4.2.2. Perceived social support (PSS)
PSS was assessed with the short version of the modified Interpersonal Support Evaluation List (modified ISEL, Cohen and Hoberman, 1983) adapted to the college context. The ISEL scale provides a global measure of perceived availability of social support across all social support dimensions (emotional, informational, and instrumental). On a 5-point scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree), participants rated the extent to which they agreed or disagreed with each of 12 items about social support. Sample items included “If I were sick, I could easily find someone to help me with my daily chores.” “I don’t often get invited to do things with others.” “When I need suggestions on how to deal with a personal problem, I know someone I can turn to.” The scale has acceptable reliability in this sample (Cronbach’s Alpha = 0.88).

4.2.3. Name generator and social network variables
The present study focuses on the egocentric network of freshman students. Name generator questions were used to elicit the names or initials of up to twenty network contacts. Respondents then assessed their relationship with each contact, and provided demographic information for each contact. The notion of functional specificity suggests that a particular kind of relationship may be effective for one kind of task or problem, but not another (Perry and Pescosolido, 2010; Sandefur and Laumann, 1998). To assess the effect of social networks on PSS and SWB, we focus on network ties to people who had provided participants important social support (e.g., contacts that participants socialize with or go to for help with personal issues), because the skills, information, and resources of these network contacts would be more suitable in the context of social support and wellbeing.

Network size was measured with the number of social support contacts named by a respondent. On average, respondents named nine contacts. Percentage measures are commonly used to describe important network characteristics such as emotional closeness (e.g., Acock and Hurlbert, 1993; Hays and Oxley, 1986; Perry and Pescosolido, 2010; Stokes, 1983). In the present study, respondents were asked to rate how closely they felt toward every contact on a 5-point scale (5 = very close, 4 = close, 3 = less than close, 2 = distant, 1 = very distant). The proportion of contacts toward whom the respondents felt very close (i.e., the number of very close contacts divided by network size) was computed to measure emotional closeness. The mean of emotional closeness is 0.54, suggesting that, on average, participants had very close relationships with half of their social support contacts. Respondents were also asked to indicate whether a contact was a fellow freshman, a more senior undergraduate student, a graduate student, or a staff or faculty member. This information was then used to construct the measure for upper reachability, which ranged from 0 to 4 (0 = having no contact affiliated with the university; 1 = having at least one fellow freshman student in the network; 2 = having at least one senior undergraduate student in the network; 3 = having at least one graduate student in the network; 4 = having at least one university staff/faculty in the network). Finally, proportion of new contacts was measured by dividing the number of newly developed contacts by network size. On average, 44% of the contacts named were developed after the students arrived on campus.

4.2.4. Personality variables
Big Five personality traits (i.e., Extraversion, Agreeableness, Conscientiousness, Openness, and Neuroticism) were measured with the forty-four-item Big Five Inventory (BFI) from John and Srivastava (1999). On a 5-point scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree), participants indicated the extent to which each of the items was an accurate description of themselves. The Cronbach’s Alphas for extraversion, agreeableness, conscientiousness, openness, and neuroticism are 0.88, 0.79, 0.82, 0.76, and 0.81, respectively.

4.3. Analytical strategy
To examine the pathways from personality to social networks, PSS and SWB, we rely upon a structural equation modeling (SEM) framework, which allows us to simultaneously evaluate all paths by fitting a series of equations representing the different paths. All SEM analyses were conducted using Mplus version 6, with maximum likelihood estimate procedure (Muthén and Muthén, 1998–2010). Mplus reports a number of model fit indices to evaluate how well the model fits the data: Comparative Fit Index (CFI), Tucker–Lewis index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). A model is considered acceptable when CFI and TLI are greater than 0.90 (Hair et al., 2006), RMSEA is smaller than 0.05, and SRMR is smaller than 0.08 (Hu and Bentler, 1999). We accounted for measurement errors by fixing the residual variance of the personality variables, PSS and SWB to (1 − reliability) × sample variance (Bollen, 1989; Muthén, 2005).

5. Results

5.1. Correlational analysis

Table 1 provides the means, standard deviations, scale reliabilities (in parentheses), and correlations of all variables included in the analysis. As expected, PSS was significantly correlated with SWB. PSS had significant positive bivariate correlations with three out of four network structure variables – network size, upper reachability and proportion of new contacts, but not with emotional closeness. SWB was positively correlated with network size, but not with the other three network variables.

A closer look at the intercorrelations points to the possibility of correlator suppression effects among the network variables in their correlations with PSS and SWB (Cohen et al., 2003). Notably, emotional closeness was negatively associated with network size (−0.14, p < 0.05), upper reachability (−0.20, p < 0.05), and proportion of new contacts (−0.32, p < 0.05). These negative correlations make sense theoretically, given that it is harder to maintain close relationships with a large number of contacts than with a few, that people tend to develop closer relationships with those who are more similar in status and life situations, and that it takes time to develop close relationships when one enters a new environment. The hypothesized positive relationships of emotional closeness with PSS and SWB could have been suppressed in bivariate situations, and can be expected to surface once the suppressing effect of network size, upper reachability and proportion of new contacts are
controlled for. Similarly, the hypothesized positive effects of upper reachability and proportion of new contacts are also expected to become visible when emotional closeness is taken into account.

The pattern of correlations between personality variables and network variables was largely consistent with our expectations with a few exceptions. Extraversion was positively correlated with all network characteristics except for emotional closeness. Agreeableness was positively correlated with network size, but not with emotional closeness. Conscientiousness was not correlated with the proportion of new contacts. Openness was positively correlated with the proportion of new contacts. Neuroticism was not correlated with emotional closeness or with network size. Finally, all personality variables were significantly correlated with PSS and SWB in the expected direction with one exception: Openness was not significantly correlated with PSS or with SWB.

5.2. Path model

To examine the relationships among personality, social networks, PSS and SWB, we first evaluated two variations of the hypothesized model. One model represents our theoretical model as shown in Fig. 1, which specifies PSS as a full mediator between social network variables and SWB, and includes direct links from extraversion and neuroticism to PSS and SWB as control variables (Model 1 in Table 2). The alternative model (Model 2 in Table 2) includes both direct and indirect paths from social network variables to SWB. Fit indices suggested that both models fit the data well, with both CFI and TLI greater than 0.95, and RMSEA and SRMR smaller than 0.05 for both models (Hair et al., 2006; Hu and Bentler, 1999). However, none of the direct paths from social network characteristics to SWB were significant, and the Chi-square difference test of the two models showed that including the direct paths from social network variables to SWB did not improve model fit ($\Delta \chi^2/\Delta df = 4.1/4, p = 0.393$). Therefore, we retained the more parsimonious Model 1 in which PSS serves as a full mediator between social network variables and SWB.

We also evaluated a few neighboring alternatives. Model 3 in Table 2 specifies social network variables and PSS as full mediators between personality variables and SWB. As the Chi-square difference test suggested, Model 1, the hypothesized model with direct paths from neuroticism and extraversion to PSS and SWB fitted the data significantly better than Model 3. The direct paths from neuroticism to PSS and SWB, and from extraversion to PSS were statistically significant. Model 4 in Table 2 further includes direct paths from agreeableness, openness and conscientiousness to PSS, and Model 5 includes direct paths from these variables to both PSS and SWB. The Chi-square difference test suggested that Model 4 fitted the data slightly better than Model 1. A closer look at the results revealed a significant direct path from conscientiousness to PSS (0.178, $p = 0.014$). The direct paths from agreeableness and openness to PSS, however, were not significant. Model 5, however, did not significantly improve model fit, and none of the direct paths from agreeableness, openness and conscientiousness to SWB were significant.

Table 3 presents model fit indices and standardized coefficients for all hypothesized paths as shown in Fig. 1 (see Model 1 in Table 2). The fit indices for our hypothesized model suggest that the model fitted the data well (CFI = 0.989; TLI = 0.963; RMSEA = 0.027; SRMR = 0.020).

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### Table 2

 Nested model comparison (N = 309).

<table>
<thead>
<tr>
<th>Model description</th>
<th>$\chi^2$ (df)</th>
<th>Model compared with</th>
<th>$\Delta \chi^2$ (\Delta df)</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Hypothesized model</td>
<td>25.691 (19)</td>
<td>Model 3</td>
<td>28.2 (4), p = 0.000</td>
<td>0.989</td>
<td>0.963</td>
<td>0.027</td>
<td>0.020</td>
</tr>
<tr>
<td>2 Model 1 + direct paths from social network variables to SWB</td>
<td>21.599 (15)</td>
<td>Model 1</td>
<td>4.1 (4), p = 0.393</td>
<td>0.988</td>
<td>0.956</td>
<td>0.032</td>
<td>0.027</td>
</tr>
<tr>
<td>3 Network variables and PSS as full mediators between personality and SWB; PSS as full mediator between network variables and SWB</td>
<td>53.888 (23)</td>
<td>Model 1</td>
<td></td>
<td>0.932</td>
<td>0.890</td>
<td>0.066</td>
<td>0.057</td>
</tr>
<tr>
<td>4 Model 2 + direct paths from openness, conscientiousness, agreeableness to PSS</td>
<td>16.746 (16)</td>
<td>Model 1</td>
<td>8.9 (3), p = 0.031</td>
<td>0.998</td>
<td>0.967</td>
<td>0.012</td>
<td>0.010</td>
</tr>
<tr>
<td>5 Model 4 + direct paths from openness, conscientiousness, agreeableness to SWB</td>
<td>15.216 (13)</td>
<td>Model 1</td>
<td>10.5 (6), p = 0.106</td>
<td>0.996</td>
<td>0.954</td>
<td>0.022</td>
<td>0.019</td>
</tr>
</tbody>
</table>

### Table 3

 Path coefficients for the hypothesized model on personality, social networks, PSS, and SWB as shown in Fig. 1.

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Dependent variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Emotional closeness</td>
</tr>
<tr>
<td>1. Extraversion</td>
<td>0.026</td>
</tr>
<tr>
<td>2. Agreeableness</td>
<td>0.113</td>
</tr>
<tr>
<td>3. Conscientiousness</td>
<td>–</td>
</tr>
<tr>
<td>4. Openness</td>
<td>0.055</td>
</tr>
<tr>
<td>5. Neuroticism</td>
<td>–0.039</td>
</tr>
<tr>
<td>6. Emotional closeness</td>
<td>–</td>
</tr>
<tr>
<td>7. Network size</td>
<td>–</td>
</tr>
<tr>
<td>8. Upper reachability</td>
<td>–</td>
</tr>
<tr>
<td>9. Proportion of new contacts</td>
<td>–</td>
</tr>
<tr>
<td>10. PSS</td>
<td>–</td>
</tr>
</tbody>
</table>

| $R^2$ | 0.015 | 0.081* | 0.024 | 0.051* | 0.200** | 0.373** |
| CFI  | 0.989 |
| TLI  | 0.963 |
| RMSEA | 0.027 |
| SRMR | 0.020 |

Note: N = 309. CFI, comparative fit index; TLI, Tucker–Lewis index; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual.

*p < 0.10, *p < 0.05, and **p < 0.01.

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1 Details on the models are available from the authors upon request.
SRMR = 0.020; Hair et al., 2006; Hu and Bentler, 1999). For a clearer view of the results, Fig. 2 presents standardized path coefficients for all hypothesized significant paths along with paths that were controlled for. In support of H1, PSS had a significant positive relationship (0.516, \( p < 0.01 \)) with SWB. The paths from emotional closeness (0.151, \( p < 0.01 \)), network size (0.240, \( p < 0.01 \)), and proportion of newly developed network contacts (0.306, \( p < 0.01 \)) to PSS were all positive and significant, supporting H2a, H2b, and H2d. Upper reachability, however, was not significantly related to PSS. Thus H2c was not supported. Largely consistent with H3a, extraversion was directly related to network size (0.194, \( p < 0.01 \)), upper reachability (0.155, \( p < 0.05 \)), and proportion of new contacts (0.156, \( p < 0.05 \)). Extraversion also had a significant direct path to PSS (0.161, \( p < 0.05 \)). The direct path from extraversion to SWB, however, was not significant. Inconsistent with H3a, extraversion was not related to emotional closeness. In partial support of H3b, agreeableness was positively linked to network size (0.176, \( p < 0.01 \)), but was not related to emotional closeness. Openness was positively related to proportion of new contacts (0.143, \( p < 0.05 \)), but not with emotional closeness, partially supporting H3d. Conscientiousness and neuroticism were not significantly related to any network variables, which was inconsistent with H3c and H3e. Consistent with our expectations, however, neuroticism had a significant direct negative relationship with SWB (-0.197, \( p < 0.01 \)), and a marginally significant direct link to PSS (-0.114, \( p < 0.1 \)).

A number of results are noteworthy. First, PSS fully mediated the positive associations that emotional closeness, network size and proportion of new contacts had with SWB. Second, results regarding the mediating role of social network characteristics varied. Network size mediated the relationships that extraversion and agreeableness had with PSS, and proportion of new contacts mediated the relationships between extraversion and PSS, and between openness and PSS. Although positively related to PSS, emotional closeness did not mediate relationships between any personality variable and PSS. Likewise, upper reachability did not mediate the relationships between any personality variable and PSS or SWB, as it was not associated with either variable.

Third, results regarding the paths linking personality variables to SWB varied a great deal. Social network variables appeared to be the primary path linking agreeableness and openness to PSS and SWB, as none of the direct paths from agreeableness and openness to PSS and SWB were significant. More specifically, agreeableness was related to PSS, and subsequently to SWB, largely via network size, and openness was not related to PSS except via its positive relationship with the proportion of new contacts. Extraversion was linked to PSS via three network paths (network size, upper reachability, and proportion of new contacts) as well as directly. It seems reasonable to infer that both objective and subjective aspects of social relationships (i.e., social networks and PSS, respectively) constitute an important path linking extraversion to SWB. Social network variables played no role in linking conscientiousness to PSS and SWB, as conscientiousness had only a direct path to PSS. Finally, the negative relationship between neuroticism and SWB was not mediated by any social network variable, and only marginally mediated by PSS.

6. Discussion and conclusion

The findings reported in this study contribute to the current social network theory in two important ways. First, the results corroborate the often posited, but rarely tested, psychological mechanisms underlying the beneficial effects of social networks on individual wellbeing (Acocat and Hurlbert, 1993; Lin et al., 1999; Perry and Pescosolido, 2010; Thoits, 1995). The results are consistent with the proposition that social networks may influence SWB by promoting positive perceptions of social support. One important question for future research is whether different types of social support mediate relationships between social network characteristics and SWB. In addition, by addressing how social networks are related to SWB, the present study opens up new avenues for investigating the question “When do social networks matter?” Given that PSS mediates the relationship between social networks and SWB, we can infer that factors that affect the correspondence between social network characteristics and PSS can potentially influence the strength of association that social networks have with SWB.

Second, the study shows that social networks and PSS together constitute important pathways through which some personality characteristics are linked to SWB, suggesting that individual differences play important roles in shaping the social environment that subsequently promotes or impedes positive life experience. Although it would require a true longitudinal study to better understand the causality and interplay of these factors, the research validates the need to consider the role of individuals’ personality traits in a network account of individual wellbeing and other outcomes (Mehra et al., 2001; Robins and Kashima, 2008; Totterdell et al., 2008). Taken together, the study suggests a more complete
story of individual experience in which relatively stable individual characteristics shape the social structure that consequently influences subjective perceptions of social resources, the more proximal cause of SWB.

While we focused on social support networks and SWB, it is also important to investigate the possibility that instrumental networks (such as advice networks) may mediate the association between personality and instrumental outcomes such as career advancement. Mehra et al. (2001) pinpointed two theoretical issues relevant to personality, “...the network position occupied by individuals might be influenced by their psychology...personality and social network position might combine to influence important outcomes such as work performance.” The present study focused on the first one, that is, the role of personality as predictors of social networks. Future research might examine the moderating role of personality on the relationships that social networks have with PSS and SWB. Research suggests that personality may combine with social networks to influence instrumental outcomes (Anderson, 2008; Mehra et al., 2001). We have little theory or empirical research on whether and which personality variables interact with which network characteristics in shaping wellbeing-related outcomes. Our earlier discussion suggests one possibility: personality attributes that capture the level of sensitivity to the external environment and social relationships may influence how individuals respond to their social environment and subjectively assess support availability. Consequently, such personality attributes may moderate the strength and nature of social network effects on SWB. Continued research along this direction can greatly advance our knowledge of social networks and wellbeing.

A few hypotheses were not supported in our study. Notably, emotional closeness did not mediate the association between personality and PSS, as none of the five personality facets predicted emotional closeness, which is inconsistent with existing research evidence (Russell et al., 1997; Wu et al., 2008). Neuroticism had a direct path to SWB that was mediated by neither PSS nor any of the social network variables. Upper reachability did not mediate the relationship between personality and PSS or SWB, as it was not associated with PSS or SWB. Finally, conscientiousness was not related to the proportion of newly developed network contacts.

One possible explanation of these insignificant results has to do with the fact that the network data were collected when the participants were just a little over two months into their first year in college, which may not have provided sufficient time to fully develop some social network characteristics. In the case of emotional closeness, respondents reported contacts that fall on the “closer” end of the continuum, as the average parentage of very close contacts is 0.54. This is probably due to the fact that we focused on social support network contacts, which tend to draw from the closer end of social relationships. The variability in emotional closeness in this study was therefore less than ideal, which may partially explain the insignificant results.

The intercorrelations of the personality variables may be another factor. For example, neuroticism may be linked to the positive network variables primarily because of its negative association with extraversion ($r = -0.27, p < 0.05$) and agreeableness ($r = -0.33, p < 0.05$). Once the effects of extraversion and agreeableness were controlled for, neuroticism did not have any unique association with network variables.

The relationships between some personality facets and network characteristics may require more nuanced theoretical account. For example, as pointed out earlier, neurotic people are more sensitive to the negative aspects of social relationships than the positive aspects (Turban and Dougherty, 1994), which was not fully considered in our study. In addition, we hypothesized a negative association between conscientiousness and the proportion of newly developed network contacts on the ground that conscientious people would be more persistent and more motivated to maintain existing relationships. However, conscientious people are also more oriented toward achievement (Costa and McCrae, 1992), which might motivate them to actively develop new relationships on campus so as to achieve better performance (Hough, 1992). As such, the net association between conscientiousness and proportion of newly developed network contacts may well depend on how the two opposing forces play out against each other. Future research is needed to probe these possibilities.

We note a few limitations with the present study. First, although the study collected data at three time points, with the assessment of personality variables, egocentric network data, PSS and SWB arranged sequentially in time, the study is not truly longitudinal and therefore does not lend itself to causal inferences. Our findings can only be considered as suggestive of the causal relationships between the variables. Further, we are aware of the potential threat of unobserved contemporaneous variables that may cause personality and social relationships to covary. For example, certain environmental aspects about the university may have lead to the covariation between personality and social relationships. Even with this limitation noted, this study provides evidence of the role individual differences play in the development of social networks, and highlights the need to take into consideration both personality and social structure in shaping individual life experience.

Second, given the data collection methods, we were not able to compare the respondents and nonrespondents, or to determine the extent of nonresponse bias. Studies have suggested that no matter how small the nonresponse rate may be, bias is of concern for the researcher (Sheikh and Mattingly, 1981). However, our study was conducted on a fairly homogenous group of individuals, namely, freshmen college students.

Finally, as we have pointed out earlier, we focused on positive social relationships only. Although there are various other types of social networks that may be of interest for researchers (e.g., adversarial network), we chose to focus on positive social relationships because our hypotheses were concerned with the effects this type of relationship when transitioning into a new environment. As such, the results should not be generalized beyond that relationship and personality aspects that were assessed in the present study.

In conclusion, the present study brings together research from different academic disciplines to develop an integrated theoretical model that traces the pathway from personality to social networks, to PSS and SWB. Results support PSS as the mediating mechanism underlying the beneficial effects of social networks on SWB, and highlight the potential role of social and personality psychology in shaping the development of social networks.

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